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COMPUTER & ELECTRONIC ENTERTAINMENT

THIS ISSUE . . .

OCTOBER 1987

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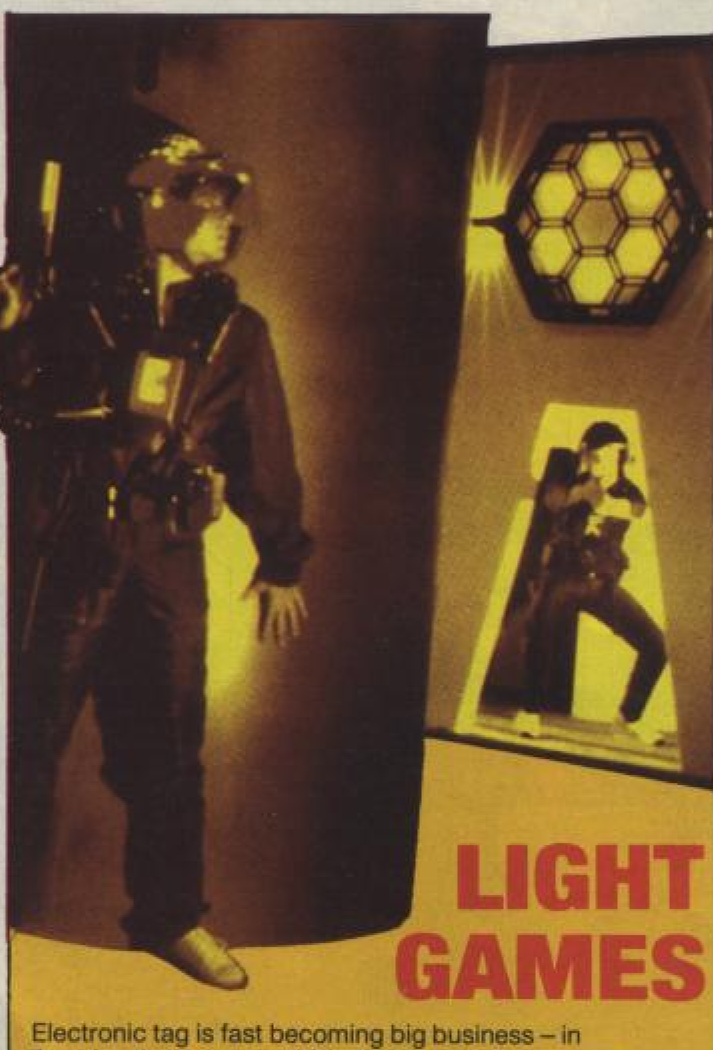
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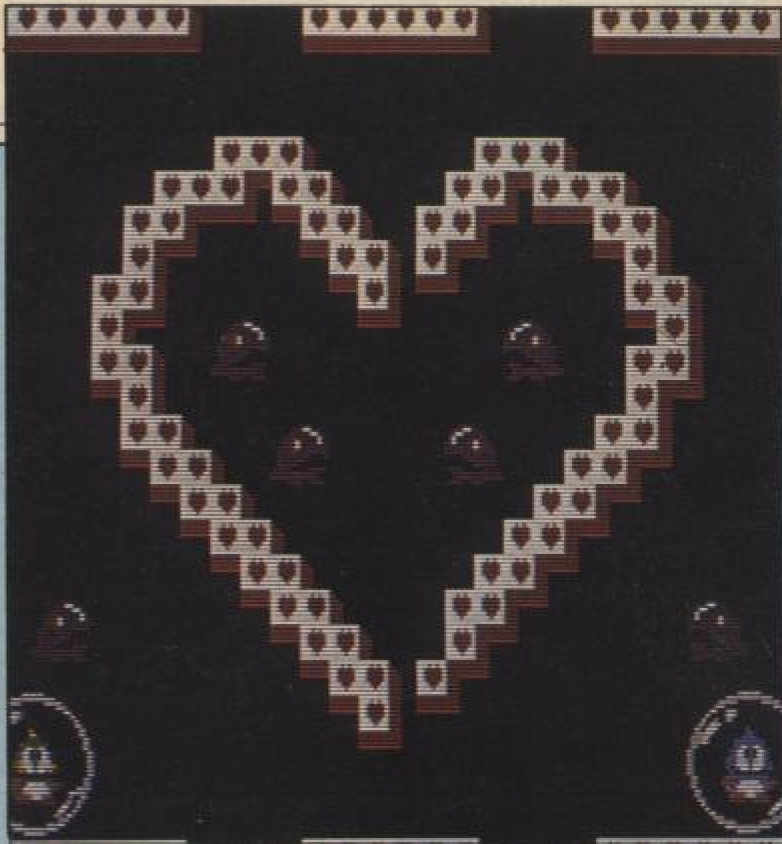
NEWSFIELD
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LIGHT GAMES

Electronic tag is fast becoming big business – in America there are special indoor arenas to play team games. Players shoot light at one another, registering hits on light-sensitive receivers worn by their opponents. The craze is coming to Britain – while no-one has firm plans to set up a light tag centre on these shores, eight laser tag systems are available in the shops. We evaluate them.

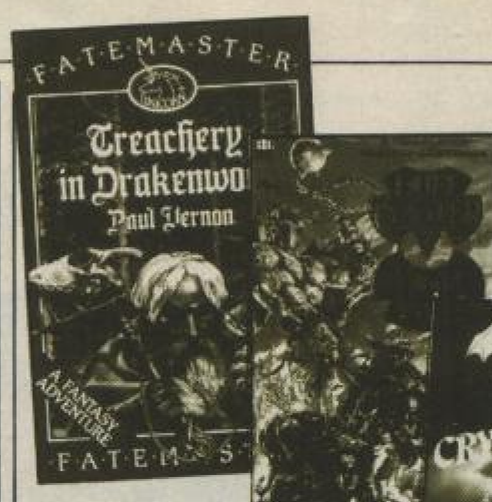
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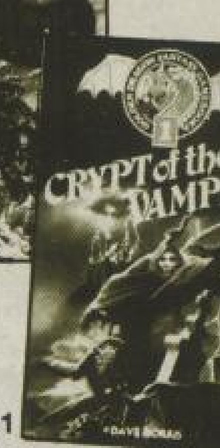


A NEW WAY OF REVIEWING GAMES

VERSION UPDATE keeps you in touch with the movement of games across formats, and then it's into the REVIEWS. We look at as many versions of a new game as we can, offering information not speculation. Separate ratings are awarded for each version of a game we get to play – none of this 'review the Amstrad version before anything else is ready and pronounce the game a hit' rubbish! We tell you what we think of what we've seen . . .

SEE PAGE 50





GOING SOLO

Role-playing on your own is tricky – unless you get a gamebook

SEE PAGE 41

WIN AN ARCADE MACHINE

Ocean offer an *Athena* arcade machine, carefully packaged in an aluminium camera case

SEE PAGE 108

THE CONSOLE BOOM

Two new dedicated consoles have arrived in time for Christmas, and two older machines have acquired some new injection-moulded clothing. We examine the history of console game-playing, evaluate the new machines and look into the future . . .

SEE PAGE 29



WELCOME TO THE GAMES MACHINE

This is the first issue of a brand new magazine, a magazine that represents something of a departure for Newsfield, the publishers of best-sellers CRASH and ZZAP 64!. THE GAMES MACHINE aims to keep you informed of all the latest developments in the world of entertainment in the home, and while computer games (on all formats) are still going to be covered in depth, as you can see from this issue there's a whole lot more to having fun with technology than playing computer games. Everyone who has worked on this issue of THE GAMES MACHINE on the words, the look, the pictures, is waiting with baited breath for your reaction.

We hope you like it. When you've read this issue, drop us a line at OPINION, PO Box 10, Ludlow, Shropshire, SY8 1DB and tell us what you thought about individual features, reviews, previews or THE GAMES MACHINE as a whole. Otherwise, look out for Issue Two, on sale November 19th.

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WORLD'S FIRST HOLO-TOYS

Holograms have been getting cheaper. After first appearing as prestige logos for up-market companies – the only people who could afford to commission holographers – new techniques for producing holographic 'prints' make mass-production of holograms possible at a reasonable price. Fairly expensive holographs can be purchased in specialist shops but for most people, credit cards are where they see their first hologram – banks began using holographically-produced images printed on foil as security markers some while ago . . .

Now **Tonka** have achieved a World First, launching a range of figures that incorporate two-channel holograms. A detailed scenario involving ghostly transformations accounts for the dual holographic images that are the central feature of each figure – and prices start at around £4.00 for the 3" tall Ghostlings. Larger Ghost Warriors are also currently available, for around £6.00 featuring two holograms, and soon an elaborate *Tomb of Doom* is to be released, including a five-channel hologram and a special flashlight to ensure the viewer gets optimum holographic effect.

Each 'chest hologram' on the figures includes two images – for instance one Ghostling has a hologram of a magician pulling a rabbit from a hat which changes to an image of a giant rabbit pulling a magician from a hat as you change your viewpoint. The 3D effect of the *Supernaturals* holograms is quite pronounced.



INTERACTING WITH THE TV

If you've ever felt like throwing something at your telly – read this! Instead of lobbing a brick with a cry of 'Banzai!', load up a video and shout, '**Bandai**!'

That's the company which will have *Video Challenger* in the shops by Christmas – the first of the interactive video games to appear in the UK. While it's still early days and the system won't properly come of age until we've all got video CD's which can use instant access to provide full interactivity (see Mel Croucher's feature on page 104), for around £59 the *VC* system lets you take out your aggressions on the screen.

Using a standard VHS cassette, which you play back via a standard recorder, the screen is filled with waves of alien ships, all in the shimmering colours of computer animation. You stand some distance from the screen and blast away, while they fire back at you.

This is the clever bit. As well as being able to scan the screen, so that it can tell if you've targetted correctly, the *Video Challenger* gun also registers pulses from the alien lasers, and records direct hits on a display panel.

Though the first release is space-based the potential is endless, and other scenarios will follow at a tenner a time. Imagine being able to shoot it out with Gary Cooper at High Noon or take on a MiG piloted by Clint Eastwood.

At the moment *Video Challenger* may be more suited to younger players, but as the first step on a road which its American developers are already chasing down, it's an exciting development . . .



RADIONIC MAN

Rainbow are set to break the mould of radio-controlled toys in this country during October by releasing a radio-controlled vehicle that is uncontrollable! Instead of sending commands through the ether to the vehicle, you take control of a driver.

The dune buggy in the *Cybon I* set can be driven by the radio-controlled 'bionic' driver, who manipulates the steering wheel and rudimentary gear shift when he is placed in the driving seat, or the driver can be taken out of the cockpit, placed in a recess in the back of the buggy and used to operate a winch.

Cybon I adds a neat twist to the concept of radio-controlled vehicles, but the vehicle itself, although elegant, lacked power and despite the rugged looks didn't cope too well with relatively mild gradients or deep pile carpet – even with a fresh set of batteries installed. Amusing, but a bit expensive at the 'recommended' price of £150.



ORIENTAL CUNNING

A new challenge for puzzle fans arrived in our office from **Tag Toys**, claiming to be a fiendishly complex oriental lock, used by oriental emperors to safeguard their treasure. A looped metal bar passes through seven linked plastic pegs and rings – and it looks as if the ends of the metal loop were threaded through the rings and then joined together. After several hours of intensive puzzling we admitted defeat.

We weren't up to revealing the mystery of the *Dragon Lock*, but we knew a man who could . . . Robert Henderson, a lad who romps through Rubik's Cubes and Magic. As our picture shows, David duly handed the dragon back, unlocked, but admitted that he'd found it quite a challenge. If puzzles appeal, £4.95 should secure you a lock that looks like it will never come undone.

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Robert Henderson, a lad who romps through Rubik's Cubes and Magic. David duly handed the dragon back, unlocked, but admitted that he'd found it quite a challenge. If puzzles appeal, £4.95 should secure you a lock that looks like it will never come undone.



PRESS ANY KEY

COME ON DOWN!

So, you're the kind of person who shouts out the answers to TV Game shows, and always values the prizes just right when you're watching *The Price Is Right* ? How many times have you told people that you could walk off with all the prizes, if only a TV company would let you into the Game Show studios?

Now here's a chance to prove your skills in the comfort of the family living room. **Rainbow Toys** are launching a brand-new dedicated computer this October, and it emulates the TV Game Show style of play excellently.

Mr Gameshow is a very different creature to your bland Spectrum or dull Amiga – it includes flashing lights, a 700 word vocabulary of synthesised speech, three on-board games that may be played at three skill levels and an animated Game Show Host figure! During play, Mr Gameshow himself keeps up a continual banter, praising players for correct answers and being viciously rude when someone makes a mistake. If he was human, TV companies would rush to sign up Mr Gameshow for his insincere laugh and horrendous accent.

The speech is stunningly realistic, loud and crisp and much better then the built-in speech on the Amiga used in games such as *The Chessmaster* and *Guild Of Thieves*. The games themselves are relatively straightforward and should be a lot of fun to play with friends – once you stop marvelling at the antics of Host. The basic starter set, which includes the three on-board games, overlays for the panel on the stage and your host himself will sell for around £130. A cassette is included in the package, and further cassette packs containing extra games will be available in due course. *Mr Gameshow* really has to be seen to be believed!





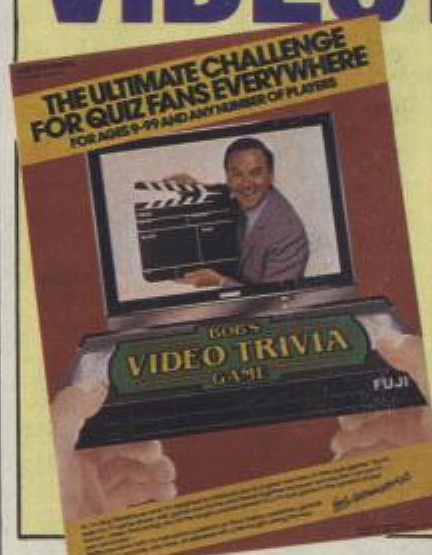
VIDEODETECTIVE

Not to be outdone by Bob Monkhouse, **Waddingtons** have also released a game on video – a *Cluedo* clone which allows viewers to test their detective skills by watching short set-pieces packed full of clues before getting down to the brainwork.

Three decks of cards are supplied: clue-cards that offer a snippet of information useful to would-be detectives, personality cards that represent the characters involved in the mysteries and gamecards that allow players to demand that the scene is replayed or nominate another player to read out one of his or her own clues. The three decks are shuffled at the start of a game and hands are dealt to the participating players before the next mystery on the tape is watched by everyone. A booklet explains the rules of play and contains the solutions to all the mysteries – a strip of red film is used to reveal the guilty secrets when a player makes an accusation, and following *Cluedo* rules, you have to get nominate the locations, weapons, murderers and victims correctly in order to win.

Good fun, providing gameplay that is quite complicated enough to satisfy even the most case-hardened *Cluedo* boardgame player. Available on both VHS and Beta formats for around £30.

VIDEOTRIVIA



Another Game Show Host, this time the flesh and blood Bob Monkhouse, has taken a new route into the home entertainment market. *Bob's Video Trivia* comes on videocassette in a boxed set that includes a sheaf of pens and multiple-choice quizcards, courtesy of **Mastertronic**'s video label, **Mastervision**.

After playing an introductory round to get you in the mood, Bob takes you through a host of visual quizzes assembled from library footage and accompanied by the usual Monkhouse patter. Available for VHS owners only, for under £10.

MEGA-BUBBLE

If you fancy emulating the antics of the Brontosaures in *Bubble Bobble* (lead game this issue), **MHL** have just the product for you. The *Incredibubble* allows truly monster-sized bubbles to be created using the special fluid supplied with the package. A fair bit of practice is needed to get really big bubbles going – but then being a Brontosaur was never meant to be easy . . . Around £5.00, including a starter pack of the special solution.



TINY TUNES

Nimble-fingered pianists can now practice their scales just about anywhere. These mini-keyboards should be fairly widely available by now from all sorts of outlets including garages and newsagents. A few pennies less than £2.00 secures the basic version, while about £4.00 should allow you to acquire the top-of-the-range keyboard, complete with rhythm unit.



GOLDEN NEWIES

We take an early peek at US Gold's schedule of Christmas-time releases, and get the low-down on their brand new label...

Britain's biggest software house, Birmingham-based **US Gold**, is due to launch a new label and recently held a press conference in London to announce a few major releases due to appear before Christmas. Two arcade conversions which should be available by the time you read this are **Tecmo**'s horizontally scrolling beat 'em up *Rygar*, and **Atari**'s *Indiana Jones And The Temple Of Doom*. **Probe Software** are behind the Commodore 64/128, Spectrum 48/128 and Amstrad CPC conversions of *Rygar* (Spectrum version seen here), while **Paragon Programming**, the team that brought you conversions of **Accolade**'s *Ace Of Aces*, have almost finished *Indiana Jones* for the Commodore 64/128, Amstrad CPC, Spectrum 48/128, and Atari ST. Now here's a taster of what's to come from **US Gold** . . .

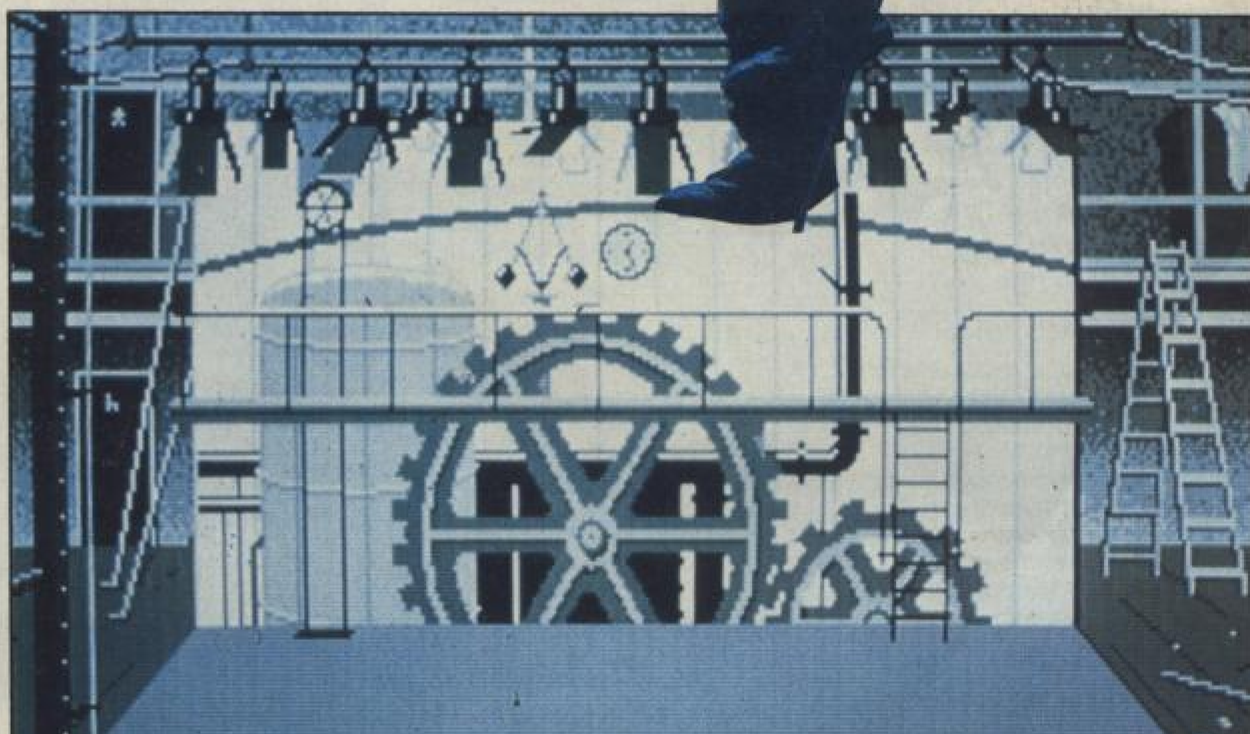


CHARLIE CHAPLIN

Commodore 64/128, Spectrum 48/128, Amstrad CPC, Atari ST

In October you can expect to see one of the most unusual licensed games ever to appear on a home computer. *Charlie Chaplin* was designed, and is being written by, **Canvas** – the people who did the conversions of *Road Runner* and who are working on *Wizard Warz* for **GO!**

In *Charlie Chaplin* you have to produce a silent movie starring none other than . . . the King of comedy. After choosing a script, detailing how many characters and backdrops are needed, and how many scenes you need to produce, a budget is given and filming begins . . . You then take control of Charlie in an arcade-style game, in which you need to avoid being caught by the Bad Guy – he holds onto Charlie, wasting valuable production time and money. When the whole flim has been recorded and – budget allowing – any cuts and retakes made, it's shown to an audience in a cinema to see how they react. If it bombs, so do you – but if it's a success, you can make a sequel with the profits, and so it goes on . . .



Seen here is an early screenshot from the Atari ST version of CHARLIE CHAPLIN

IMPOSSIBLE MISSION II

Elvin Atombender has returned! **Epyx**'s long and eagerly awaited follow-up to the timeless classic *Impossible Mission* is on its way. Commodore 64, PC and Atari ST versions should appear first, with Spectrum and Amstrad versions not far behind.

Here is **Epyx**'s prospective game plan – please note, it is subject to minor changes . . .

The setting changes from Elvin Atombender's infrastructure to a high-tech office building, comprising a central, circular tower surrounded by eight smaller circular towers, containing facilities such as a gym, garage, and executive office suites – apparently, **Epyx** want it to look similar to Westin Boniventure Hotel in Los Angeles!

Naturally, the overall aim is to defeat Elvin once again, by getting to the top of the centre tower – and then you've got to get out. Gameplay involves completing rooms in towers, which vary in difficulty, and opening safes after discovering combinations in furniture. Inside each safe is a PIN – Personal Identification Number, and they're needed to access the lift to take you to the top of Elvin's tower. At the start of a game you select an entry point, and by so doing commit yourself to leaving by same route. Of course, there's a sneaky twist when you actually get inside Elvin's room . . .

Each satellite tower has to be

PRESS ANY KEY

competed within a time limit, otherwise your air supply is cut off, and to make life a bit more tricky, some rooms are in darkness while others can only be accessed via lifts in other rooms.

As in the original *Impossible Mission*, the basic objective is to collect pieces of puzzle, but the sequel is due to feature a modified pocket computer, mines, time bombs, trap doors, and new adversaries – robots, of course – but a security guard may also make an appearance. And it's likely that the rooms will have a more 3D look about them.

INFILTRATOR II

Commodore 64

Canadian **Chris Gray**, designer of *Boulderdash* and the programmer behind *Infiltrator* has recently finished a sequel to his Number One best-seller . . . entitled *Infiltrator – The Next Day*. Three new missions have been created for Johnny 'Jimbo-Baby' McGibbits to undertake in order to save the world once again from the despicable Mad Leader (seen here gloating on the Commodore 64 version).

This time around, Jimbo has to neutralise a deadly nerve gas compound and deactivate a supply of neutron bombs, before eventually confronting the Mad Leader in a fight to the death. A release date is set for October, at a price of £4.99 on cassette and £9.99 on diskette – or together with *Infiltrator I* for £9.99 on cassette and £14.99 on diskette.



GAUNTLET II

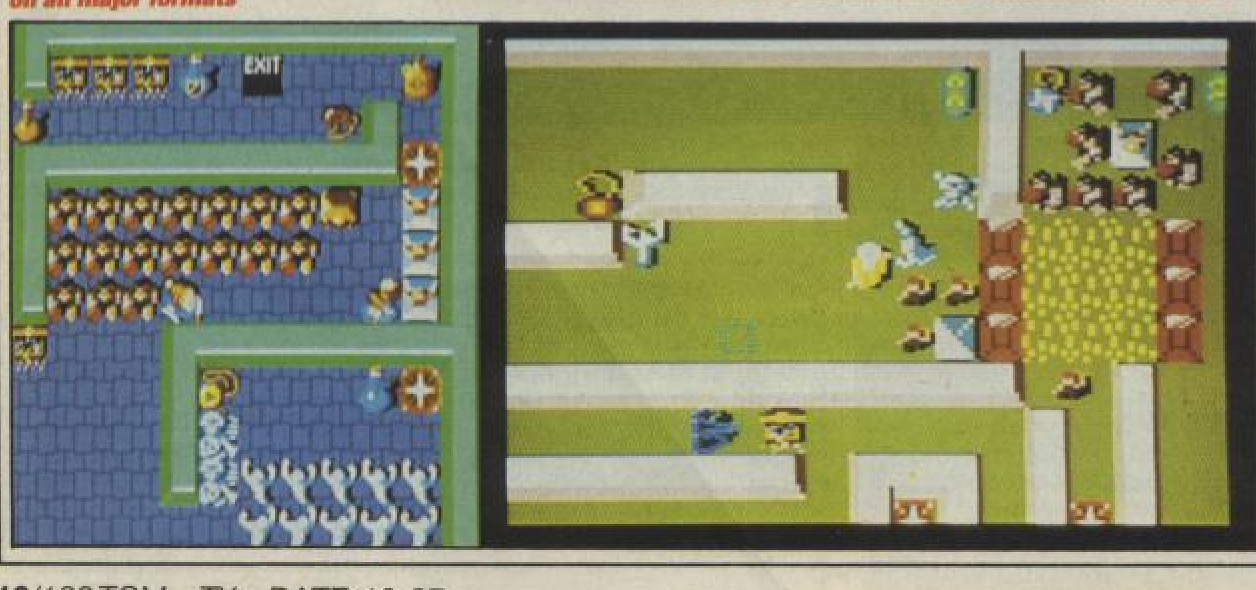
Commodore 64/128, Spectrum 48/128, Amstrad CPC, Atari ST

At the end of October the sequel to one of last year's best-selling home computer games is due to make an appearance . . .

Gauntlet II is a reworking of its predecessor, and first appeared in the arcades many months ago. It's essentially more of the same, but with several new features thrown in – new creatures such as a fire-breathing dragon, and new artefacts including stun tiles, moving acid puddles, deadly forcefields, moveable blocks. Then there's the 'IT' monster, a creature that follows the players around, then tags one of them so they are 'it'. A pain for the unlucky player, as attacking creatures then only home in on the player who is 'it'. Two players can assume the persona of the same character, but each player is assigned a different colour. Conversions are nearing completion, and they are being produced by a team from **Gremlin Graphics** – roughly the same group that brought *Gauntlet* so successfully to your computer.



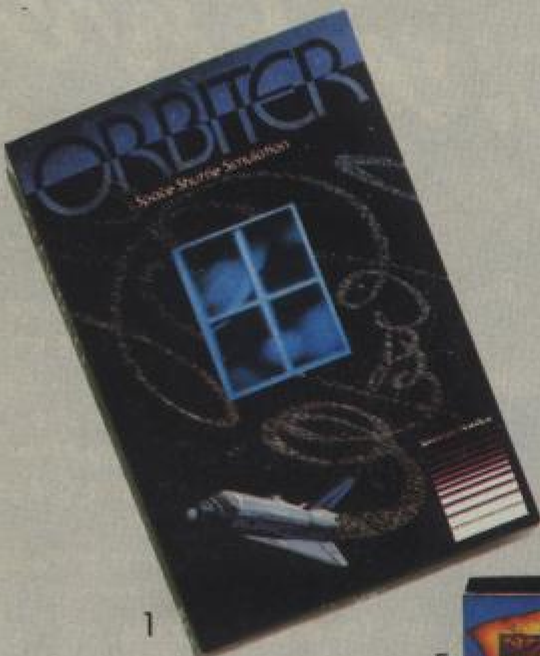
The character selection screen from the Atari ST version of GAUNTLET II



Inside Gauntlet II on the Atari ST – coming soon on all major formats

STRATEGY SIMULATION — MIRROR Soft — ADVENTURE FANTASY

THE ST COLLECTION



1



2



3



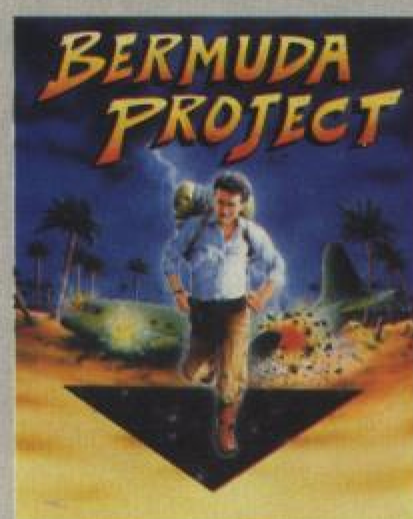
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7



4



6



8

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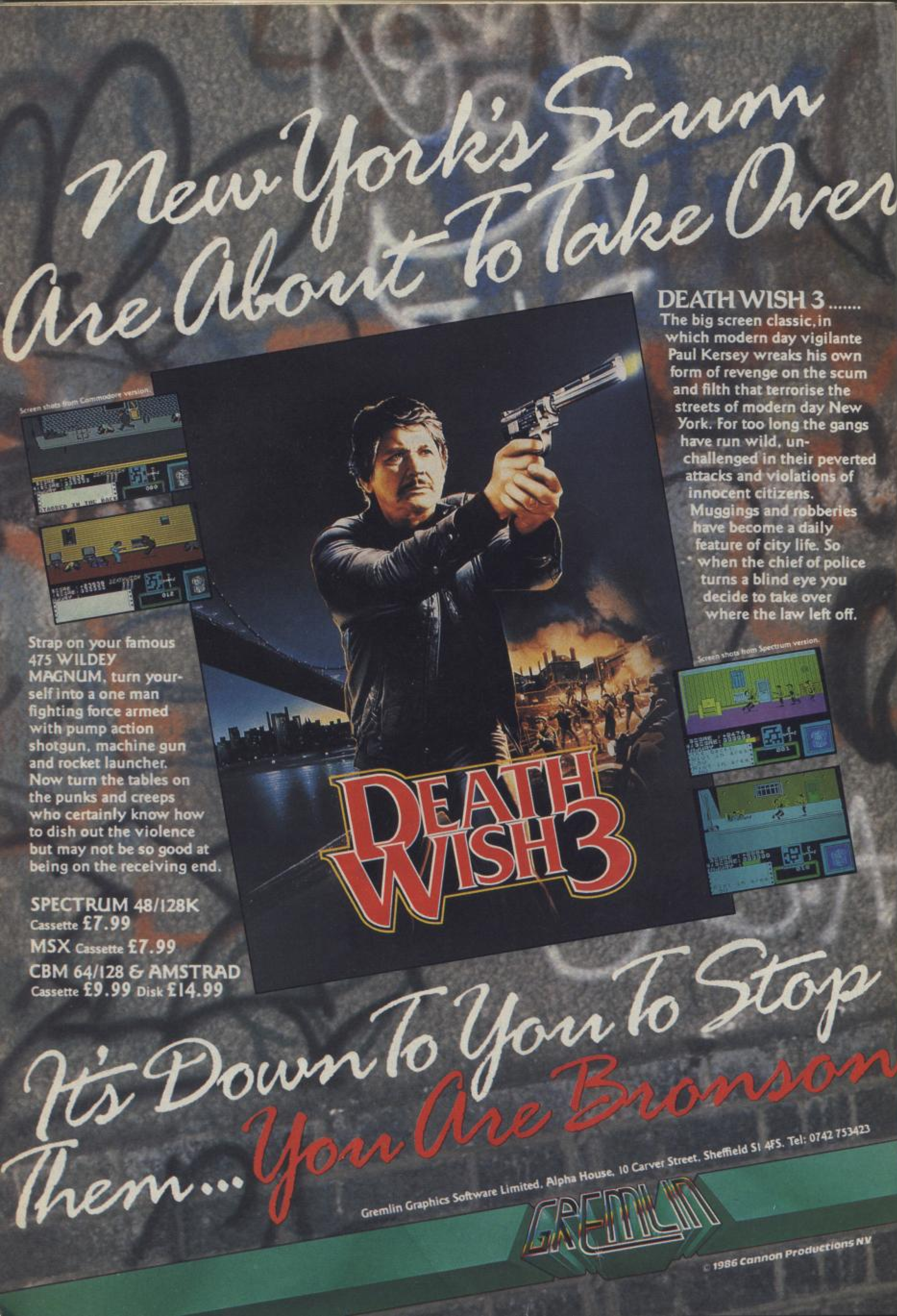
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Screen shots from Commodore version.
Screen shots from Spectrum version.
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720°

Commodore 64/128, Spectrum 48/128, Amstrad CPC

Atari's innovative arcade skateboarding game is currently being converted by newcomers to the craft, **Teartex**, and is due for release in November. Skate City is the setting, where all surfaces are ideal for skateboarding. Avoiding hazards such as cars, BMX bikers and Frisbee throwers, points – and more importantly tickets to skate parks – are awarded for performing skillful manoeuvres. Entering a skate park, you can win money in skateboard competitions and buy extra equipment such as faster boards, helmets, pads and shoes.



The most advanced conversion is that for the Spectrum . . . as you can see from this screenshot.

OUTRUN

Commodore 64/128, Spectrum 48/128, Amstrad CPC, Atari ST

Undoubtedly **US Gold**'s strongest arcade licence is the one they've won for **Sega**'s graphically astounding driving game – one of the major hits in the arcades this year. **Probe**, in conjunction with **Amazing Software**, are busily coding away in time to meet the deadline for a December release.



Amstrad version of OUTRUN

GREMLIN GROWS

More than a few software houses are likely to be rendered green with envy as they watch the releases pouring out from **Gremlin Graphics** between now and Christmas. During the year **Gremlin** has expanded from its Sheffield HQ, opening an office in Derby and taking space in **US Gold**'s Birmingham premises. **Imagitec Design** (not **Imagineering** as stated elsewhere) has been signed up to produce a computerised version of the two-player Fighting Fantasy gamebooks *Blood Valley*, and **Gremlin** are dipping a toe in the boardgame market.

The company's philosophy is simple – they plan to continue producing original games – like the sequel to *Jack the Nipper* – while acquiring licences from outside the coin-op industry – such as *Basil The Great Mouse Detective* and *MASK* to name but two. But the planned expansion that has taken place this year should allow the company to take maximum advantage of the growing 16-bit marketplace.

Games such as *MASK* are unlikely to appeal quite so strongly to ST and Amiga owners, the **Gremlin** management team reasons, so the 16-bit programmers have been sent off on a different route with orders to produce original, arcade quality games that stretch the more powerful machines to the limit. Already, several impressive games for the ST are well underway and the eventual aim is to produce 16-bit software so stunning that people will be crying out for 8-bit versions. If the plan works, **Gremlin** should soon be in a position to license games to itself!

ST ONLY

Gremlin's first product written specifically for the ST is *3D Galax*. Programmed by newcomer **Paul Blythe**, it represents a new interpretation of the classic shoot 'em up *Galaxians* – this time round though, the action is viewed in filled 3D vector graphics and you fly in amongst the aliens rather than fighting them on a single plane. Aliens attack in 25 formations and there are 99 waves to survive – just to complicate matters, there's an asteroid field to negotiate between every fourth wave of aliens. With luck, the game should be available for the ST by the time you read this, and it may well be transferred to the Amiga and Z80 machines, possibly in time for Christmas. Then there's a plan to incorporate the techniques learned during the programming of *Galax* into a full-race, filled 3D space trading game along the lines of *Elite* . . .

Passing over the other 16-bit product currently under development (we saw it, were impressed but promised not to tell), Commodore, Amstrad, Spectrum – and even MSX owners – can expect a veritable cornucopia of releases from **Gremlin** over the coming months.

VENOMOUS

MASK I is reviewed elsewhere this issue, and its sequel is due for release in November. Once again the evil forces of VENOM are doing what evil forces are best at, and it's up to you to stop them. Four missions are offered, and once you've selected your team of three from the MASK members grouped around a table in the start sequence, it's off to do battle with VENOM. Each member of MASK is associated with a particular vehicle, and the vehicles have different attributes, reacting differently to the terrains encountered during a mission. Careful team selection is part of the recipe for success. Fuel and armour gauges monitor the status of the three vehicles used in a mission, and once a vehicle has taken too many hits or run out of fuel, it's out of the game.



AMSTRAD CPC: the action hots up for MASK leader Matt Trakker

Although *MASK II* was at a comparitively early stage when we saw it, there's little doubt that it will succeed. For once, a company has produced a game that really allows the player to identify with the characters on the inlay – you get a biographical summary on each member of MASK as you browse through the files, assembling a team.



ATARI ST: Gremlin's GALAX . . . 3D GALAXIANS with a difference

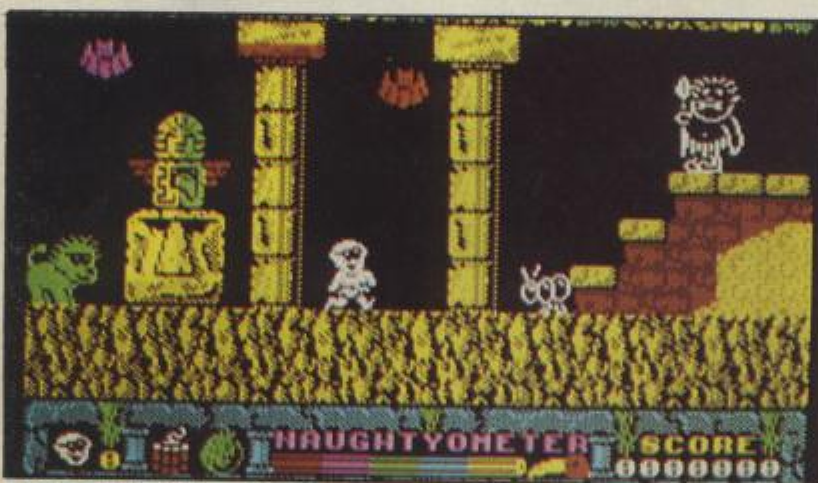
PRESS ANY KEY

NIPPER

Frankly, **Gremlin** would have been foolish to pass up an opportunity like that of producing a sequel to their hit game *Jack The Nipper*. **Gremlin** aren't foolish, so any day now expect to see *Jack The Nipper In Coconut Capers*. The diminutive rascal is currently being coaxed into a jungle scenario by the team working in the Derby office, and once again the aim is to romp around performing naughty tasks and annoying the locals as much as possible without being spanked. Jack's on the rampage in the jungle and points are just waiting to be collected for annoying Tarzan, teasing crocodiles, wiping the grins off hyena's faces, and generally frightening the animals and natives who are trying to go about their business peacefully.

The ultimate aim is enter the Temple of Naughtiness and find the Staff of Toucan, while performing ten core naughty tasks en route. There's plenty of opportunity to collect naughty points on the way, by using coconuts as ammunition or discovering a blowpipe (the jungly equivalent of a pea-shooter).

Neat touches abound – if Jack falls from too high a ledge in this platform game you can save him from a messy death by prodding the fire button at the right moment, which causes him to whip off his nappy and parachute safely down to the ground. On landing, Jack gets embarrassed and turns round to adjust his dress before play can resume. Leave the controls alone for too long, and Jack gets bored – so he starts picking his nose . . .



SPECTRUM: that little horror Jack is back, this time terrorising the natives in NIPPER II – COCONUT CAPERS

EARLY STAGES

Other titles that were still at a relatively early stage when we paid our visit included *He Man The Movie*, taken from the film that is yet to be released and due out in time for Christmas across most 8-bit formats. We narrowly missed a working demonstration of *Alternative Games*: the latest disk had been delayed in its travels from Hungary. **Andromeda**, the Hungarian contract house responsible for many a release, including *Scarabeus* from **Ariolasoft** (and who's going to be releasing *Scarabeus II*? we ask as an aside . . .) are working on *Alternative Games*, an unashamed spoof on the **Epyx** *Games* genre. Featuring weird and whacky events including sack racing, log flogging, boot throwing and running up walls played against backdrops in Venice, *Alternative Games* should have 8-bit Commodore, CPC and Spectrum owners chuckling away during November alongside ST gameplayers. Although the events are silly, the games are deadly serious and should present a fair old challenge.

Gary Lineker's Superstar Soccer is already available as a board game produced by **Gremlin** in partnership with **Birmingham Board Games** , and should be a computer game on general release by the middle of October. (Look out for the reviews next issue.) October should also see *Compendium* in the shops – a set of games for one to four players being produced by the duo of programmers behind **Hewson**'s *City Slicker*, while two more **Gremlin** games, *Basil The Great Mouse Detective* and *Blood Valley should accompany each other into the shops in good time for Christmas.*





US GOLD'S NEW LABEL IS GO! (LITERALLY)

Following a fairly extensive advertising campaign, **US Gold** are set to launch the first release on their new **GO!** label – *Trantor – The Last Stormtrooper*, an original development from **Probe Software**, designed by **Dave Perry** – author of **Mikro-Gen**'s *Stainless Steel*.

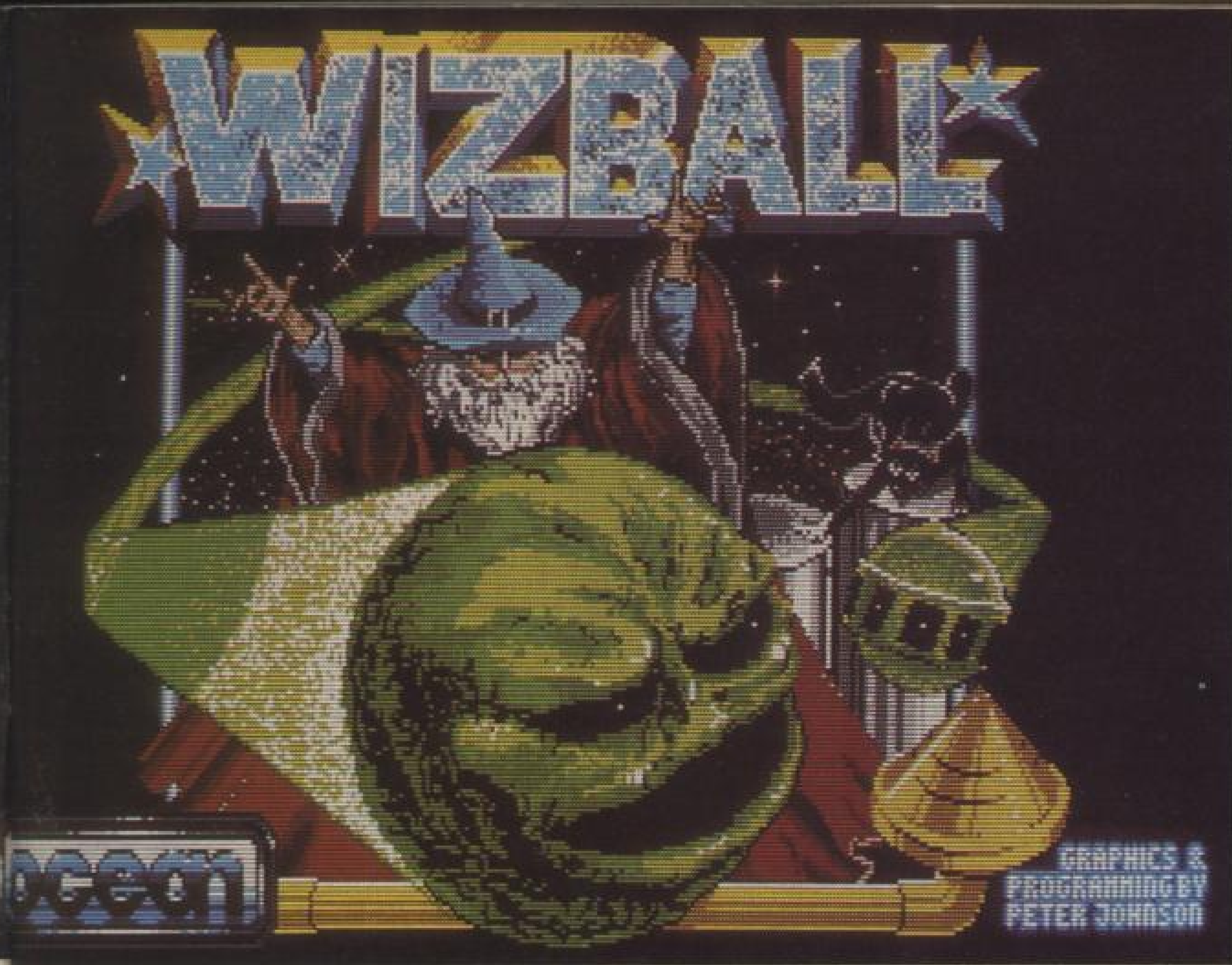
Other original projects include *Fast 'n' Furious*, a scrolling shoot 'em up of sorts, set in Old Bhagdad, which puts you in control of a flying carpet, and *Wizard Warz*, an arcade adventure with role playing overtones that should offer more arcade-style gameplay than, say, the *Ultima* series.

Bravestarr, licensed from the **Mattel** action figure who also stars in a cartoon television series is joining the **GO!** portfolio in a horizontally scrolling shoot 'em up. Also licensed from **Mattel** is *Lazer Tag*, and yes, you've guessed it . . . the game is being designed and written by **Probe**. It takes the form of a vertically scrolling shoot 'em up, set in a Lazer Tag arena, in which you have to progress through six ranks. And news has just come in that **Mattel** have signed an agreement with **GO!**, who will be distributing **Nintendo** software and hardware . . . looks like the two companies are entering into a fruitful partnership.

Marvel Comics' *Captain America* has also been licensed to appear in a computer game based on *Captain America And The Doom Tube Of Dr Megalomann*. The Bad Doctor wants to rule America, and if the President won't let him, he intends to unleash a missile containing a deadly virus. Enter the American dream, Captain America, who has to penetrate the six levels of the doctor's underground bunker and destroy the missile before Megalomann.

And finally, there are three conversions of **Capcom** arcade shoot 'em ups in the pipeline . . . the high-speed *Salamander*-style *Side Arms*, plus *Bionic Commandos* and the multi-directional scrolling *Speed Rumbler*.

Incidentally, the flip-side of five of the first releases on the GO! label (including *Trantor* and *Side Arms*) will feature music from a Birmingham group called **Resistor**.



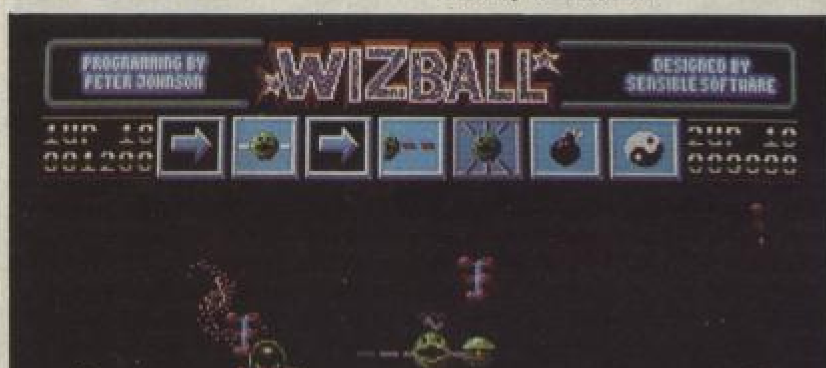
On the ST, WIZBALL starts; a black and white title screen fades in – and then the colour is suddenly added with a series of colour 'explosions'.

MORE PSYCHEDELIC WIZARDRY

Paul Johnston, the talented BBC programmer who wrote both the BBC and Atari ST conversions of *Arkanoid* for **Imagine**, recently shocked **Ocean** when he sent them a demo of his latest project on the Atari ST – and it prompted an ecstatic **Gary Bracey** to telephone from out of the blue to say: "I've got something you're going to love."

He was right . . . a disk arrived and on it was a conversion of **Sensible Software**'s *Wizball*. This ST version, unlike some of the others, retains the playability of the excellent original – but Paul has greatly enhanced the graphics, adding a multitude of brilliant touches. He hopes to include digitised sounds too. The ground now scrolls in parallax, the icons flip, and maybe, just maybe the eyes of the President's heads in the mini-Mount Rushmore will follow you, and smile when you get killed.

Paul is also working on a version for the Amiga, which he wants to have ready along with the ST version by November.



From the man who brought you ARKANOID on the ST . . . Paul Johnston's 16-bit conversion of Sensible Software's WIZBALL. The pale blocks either side of the screen are parts of the as yet undefined scenery

US GOLD

Halls Of Kyros is a highly playable multi-directional scrolling arcade game in the *Gauntlet* vein. The coin-op has yet to be released in the UK, but**US Gold** already plan to make the home conversion available around Christmas.

And no, **Ultimate** haven't quite disappeared just yet – the good news is that *Jet Pac III* is in the pipeline and providing Director **Tim Stamper** is happy with it, you may get to see the new game before Christmas.

DURELL

West Country software house **Durell** also have a few goodies up their sleeve, including the follow-up to *Critical Mass*, entitled *Chain Reaction* and an as yet untitled game involving a Spitfire and some V2 bombs from author of *Thanatos*. **Durell** were kind enough to supply us with a working demo on the Spectrum, and very nice it looks too, with the scenery scrolling by *Thanatos*-style and the Spitfire able to perform a variety of impressive manoeuvres.

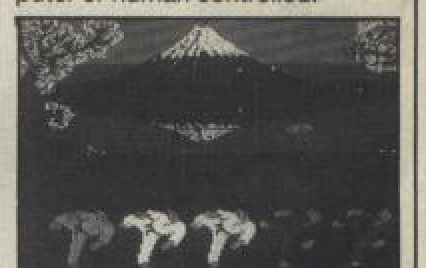
OCEAN

Due to appear around Christmas is the Atari ST version of **Jon Ritman** and **Bernie Drummond**'s classic *Head Over Heels*. It's being converted by **Ocean** in-house programmer **Colin Parrot**, who was also responsible for the excellent Commodore 64 version. The conversion is being written in his spare time, what little of it is available – Colin is also converting the **Konami** shoot 'em up *Gryzor* to the Commodore 64 for **Imagine**.

MORE KARATE

Following the successful re-release of **First Star**'s classic *Boulderdash* and its sequel *Rockford's Riot* at budget prices, **Prism Leisure Corporation** have now re-released another, similarly priced classic . . . **System 3**'s beat 'em up *International Karate* is available for the C16/Plus 4, MSX, Commodore 64, Spectrum and Amstrad. All are available for £2.99.

Meanwhile, System 3 are also set to release a version of *IK* – this time for the PC and compatibles, with *International Karate Plus* for the Commodore 64 and Spectrum not far behind. Author of the Commodore 64 version, **Archer Maclean**, is currently putting the finishing touches to what **Activision**'s Ambassador **Andrew Wright** claims to be "an incredible game". "It's easily the best fighting game I've seen," he added enthusiastically. Mr Maclean himself jokes that "it uses 101% of the machine" – or maybe he's not joking . . . played against a fully animated scenic backdrop, with a setting sun reflecting off undulating water and leaping fish and birds flying past, up to three fighters are on screen at the same time, two of which may be computer or human controlled.



Three extra moves are at your disposal – a backflip, a mid-air double head kick and a headbutt. The judge is no longer static – he now walks on screen and passes judgement by means of a speech bubble. Just to round things off, **Rob Hubbard** has provided the soundtrack – a funkier remix of the original *International Karate* theme. Sounds like this could be the sequel to end all sequels . . . find out in October.

Also on the way from **System 3** are the Spectrum and Atari ST versions of *The Last Ninja*.



AMSTRAD CPC: GRYZOR

PRESS ANY KEY

BATTLE ACTION

Simulator specialists **Microprose** are planning to offer visitors to the Personal Computer World Show a special treat – at great expense they're shipping in a real Gunship Link Flight Training Simulator. If you can get to the head of the queue between 25th and 27th September, you'll be in for a ride that should knock the socks off even the most sophisticated versions of arcade games like *WEC Le Mans* and *Space Harrier*.

We managed to steal a sneak preview of two games that **Microprose, are launching later this year *Airborne Ranger* – a cross between a battlefield simulation and a purely fictional arcade game that takes you on a commando raid behind enemy lines – and *Project: Stealth Fighter*, a simulation of a military aircraft that's so secret, no-one in the American Air Force will admit that it exists!**

Of course, when it comes to military simulations Microprose are fairly well placed – the man who runs the company is also Chief Advisor to the Joint Chiefs of Staff at The Pentagon, so if anyone has the contacts that ensure accuracy in simulations, it must be **Microprose**.

LESS COMPLEX

Although there's a fair element of arcade action in *Airborne Ranger*, the package includes a detailed manual that runs to around a hundred pages. In **Microprose** terms, though, this game is a little less complex than usual. Before setting out to deal death and destruction, the first task is to select the mission to attempt – and they range from knocking out a SAM base to rescuing hostages. The actions starts with a parachute drop behind enemy lines, and you are preceded by packs of supplies that may contain ammunition, extra weaponry and medical equipment in case the going gets particularly rough. Steering the parachute, you come into land and the first task is to salvage the equipment that dropped into the combat zone with you.

The battlefield itself scrolls in four directions and is crammed with ditches, barbed wire, enemy gun emplacements – and the odd sniper. A map screen can be toggled to help plan a route to the objective selected at the start of the game.

Play is fast and furious, calling for the temperament of Rambo and the cool skills of a five-star general. Weapons systems, including rocket launchers and more humble grenades, are controlled with a cursor. There are plenty of neat touches – when you lob a grenade, for instance, a little shadow accompanies the missile to indicate its height . . .

Commodore 64, Amstrad CPC and Spectrum versions of *Airborne Ranger* are imminent, and plans have been laid back in **Microprose** HQ for ST and Amiga versions, which will follow a little later.

TOP SECRET

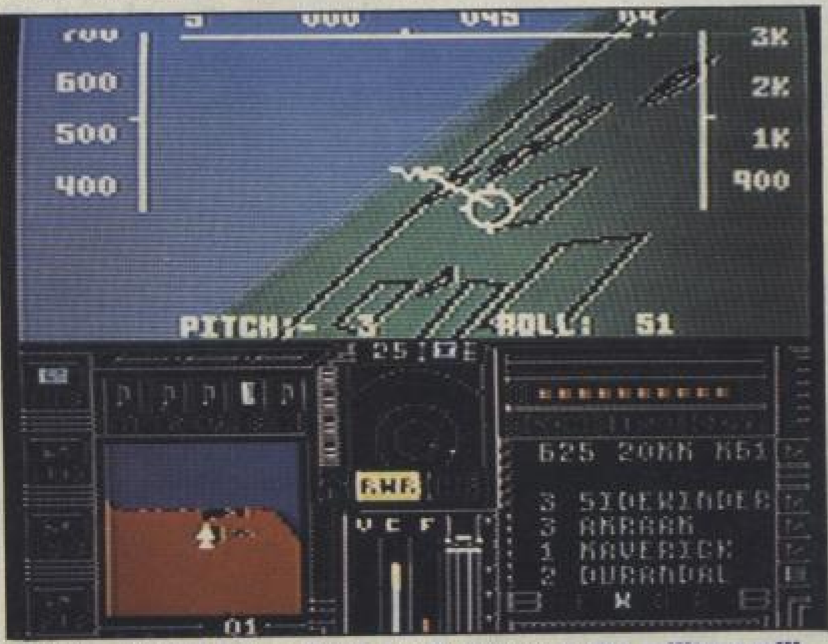
Major 'Wild Bill' **Stealey, Microprose**'s Man In The Pentagon, insists that *Project: Stealth Fighter* is a 'fairly accurate' simulation of one of the most sophisticated (and most secret) of airborne military systems. It seems a little belittling to refer to such a complex piece of equipment as a mere 'plane' . . .



COMMODORE 64: a section of the multi-directional scrolling playing area seen in Microprose's AIRBORNE RANGER

As to be expected, there's a thick and detailed manual to wade through before you can fully get to grips with all the nuances of controlling your stealth plane, but a keyboard overlay helps novices get into the game rapidly. Aided by an on-board computer that targets missiles and cannon and provides a head-up display for the pilot, this flying wonder can be taken on a range of missions – including a fairly topical one, the Gulf.

The most important read-out to monitor is your stealth-meter – the aim is control emissions from the 'plane' as you fly below radar level on a mission of sneaky, surprise destruction. Fail to pull off a mission and the game ends with your lonesome figure sitting over a drink in a deserted mess bar. American pilots don't like losers, it seems, and no-one wants to buy you a drink . . .



COMMODORE 64: so hush hush, not even the military will admit to it . . . a view from the hi-tech fighter plane in PROJECT: STEALTH FIGHTER

OUT SOON

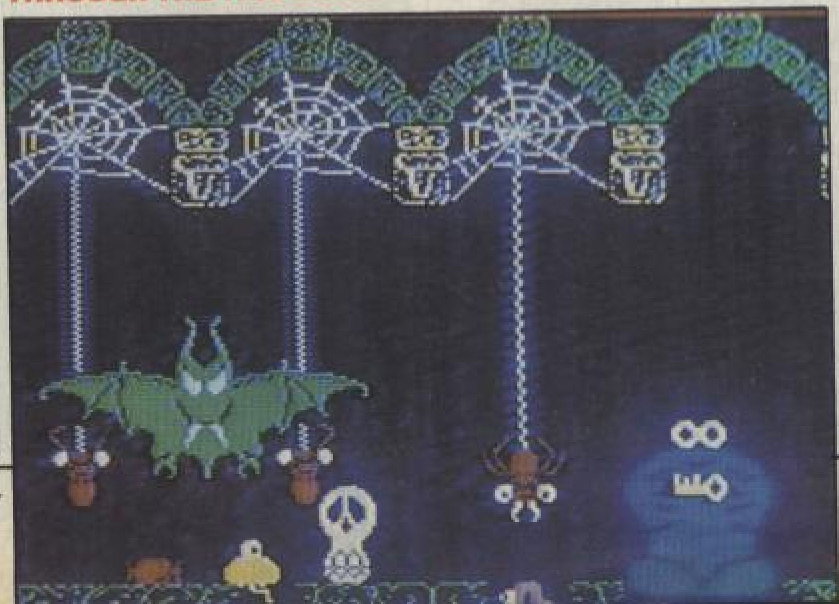
A selection of **Microprose** 'favourites' is due for 16-bit release over the coming months. ST owners should look out for *F-15 Strike Eagle* and *Kennedy Approach* while *Gunship*, *Moebius* and *Ogre* are due soon on both Amiga and ST.

PIRANHA

Piranha have two comic licences on their way in the form of IPC's *Roy Of The Rovers* and *Judge Death* (incidentally, CRASH and ZZAP! 64 will be carrying a special 16-page *Judge Death* supplement, as drawn by (gasp) comic artist extraordinaire **Brian Bolland.**) **Don Priestley**'s eagerly awaited sequel to *Trapdoor* promises more similarly innovative puzzle solving – *Through The Trapdoor* will be rearing its head on the Spectrum and Commodore 64 in October.

And finally, **Mirrorsoft** have *Andy Capp* and a tentatively titled little number currently on the PC called *Tetris* – simplistic but deceptively addictive – sadly the screen shot cannot convey the addictive nature of this apparently simplistic little game.

SPECTRUM: problems abound for Berk in Don Priestley's THROUGH THE TRAPDOOR



ACTIVISION ACTION

Apart from *International Karate Plus*, **Activision** are due to release a Spectrum conversion of the American *Aliens*, along with a C16 version of English *Aliens* from **Electric Dreams.**

Lucasfilm 4: The Prestige Collection is the title of a compilation featuring four **Lucasfilm** classics: *Ballblazer, Rescue On Fractalus, Koronis Rift*, and *The Eidolon* – for £9.99 on Commodore 64, Spectrum, Amstrad CPC and Atari 800 cassettes.

Conversions of the **Atari** arcade game *Super Sprint* should be available on Spectrum and Commodore around now, with versions for the Atari ST and Amiga appearing in October. Spectrum and Commodore 64 conversions of **Data East**'s *Firetrap* and **Sega**'s *Super Hang On* are due to hit the streets in November, along with an Atari ST version of Sega's *Enduro Racer* – already a Number One best-seller on the 8-bit machines. December sees the release of *Rampage* for the Commodore 64,

Spectrum and Atari ST, and you can expect to see conversions of **Nichibutsu**'s *UFO Robo-Dangar*, *Lock On* and *Karnov* in early 1988.

ACCESS

Anyone who enjoys a quick round of the classic golfing game *Leaderboard* and all its sequels may be aghast to hear that **Access** duo **Bruce** and **Roger Carver** have produced *another* sequel of sorts. *World Class Leaderboard Tournament Courses* is a data cassette featuring new courses which are loaded into the original *World Class Leaderboard* in much the same way as the four previously released *Tournament Courses* were loaded into original *Leaderboard*. Could there be a *Universal Leaderboard* on its way? No, please – only joking lads. Maybe you should rename it *Leaderbored* . . .

ENGLISH

English Software have Atari ST and Amiga versions of their *Zaxxon*-style shoot 'em up *Leviathan* in production – both are graphically improved, but whether the control mode remains as awkward as it is in other versions remains to be seen. *Captain Courageous* and *Knight Games II: Space Trilogy* are both under development for the Commodore 64.

Captain Courageous involves a super-soldier's tortuous trek through a jungle, and rivers, rockfalls and sniper attacks need to be avoided before partaking in a shoot out on a highly strung bridge. *Knight Games II* on the other hand, is **Jon William**'s sequel to the Mediaeval beat 'em up *Knight Games – only this time the action is set in space.*

TELECOM

***British Telecom**'s software arm **Firebird**, has a few interesting titles in the pipeline. The appropriately titled I, Ball II – Quest For The Past* is, quite unsurprisingly, the follow up to the successful budget blaster *I, Ball*. Written by **Timothy Gloss**, the Spectrum programmer who wrote the original, *I, Ball II* features improved graphics, sound and gameplay, and is much more playable than *I, Ball*. Commodore 64 owners will have to wait a little longer before it's converted to their machine . . .

Simon Pick, who provided the sampled speech for the Commodore 64 version of *I, Ball*, has been tinkering with yet more sampled sound – only this time for a product of his own design . . . *Slimey's Mine* is a simplistic but very playable single-screen shoot 'em up, in some ways similar to the ageing **William**'s arcade game *Robotron*. The title screen 'music' is basically a bizarre arrangement of samples, including a barking dog, a pig and a few words from Simon himself! As for the game . . . well, the aliens littering the screen scream 'OW!' 'Aaargh!' 'Aaeeii!!' when shot, and there are many more sampled sounds thrown in for good measure.

Micro music maestro **Rob Hubbard** has also been playing around with sampled sound recently (see page 111 for more details), providing the exceptional soundtrack to *Arcade Classics* – formerly known as *The Big Four Pack* – complete with sampled guitar and organ. Before popping off to the States, Rob wrote a tune for **Firebird Silver**'s soon-to-be-released *BMX Kidz* . . . 'Go Go G G G Go' shouts a sampled Rob, before your ears are treated to an incredible, sample-laced Electro Bop soundtrack.

On a quieter note, it looks like **Firebird** will be the first to launch a range of budget-priced arcade conversions . . . kicking off with Atari's *Peter Pack Rat* for £2.99. Oh, and **Design Design**'s *Halls Of The Things*, *Dark Star* and *Tankbusters* will soon be re-released along with eight of their other titles at a budget price, courtesy of **Firebird Silver**.

NOVANEWS

1984 saw the release of an astounding high speed shoot 'em up for the Atari 400/800 and Commodore 64, featuring solid 3D graphics, the likes of which have not been seen since. *Encounter* developed from a graphics routine written by **Paul Woakes**, and the complete game quickly built up a cult following. The Commodore 64 version features a fast loader by the name of *Novaload*, which has been used by many UK software in the three years since its appearance.

A year later, Paul had written another graphics routine – this time to plot line drawings of geometric shapes on the Atari 400/800. It was fast, effective, and like *Encounter*, it soon developed into a game . . . the timeless classic *Mercenary*. *Mercenary: The Second City* followed – a unique concept: when the data cassette is loaded into a machine containing *Mercenary* as if it contains a saved game, you get a complete reworking of the *Mercenary* program itself.

Paul then moved on to the ST, found he enjoyed writing for it and so began to develop not one, but two incredible new concepts – *Mercenary II: Damocles* and *Backlash*. In *Damocles* the action takes place in a solar system, featuring nine planets, 19 moons, space stations and with luck, some star constellations. The ship under your control is flown from planet to planet, and the effect as the solid, shaded planets move in relation to you and the sun is uncanny – it's like something out of *2001*. On each planet there is a city to explore, similar to those found in *Mercenary*, although fortunately not as huge or complex. But the puzzles and action most certainly will be – 8-bit conversions should appear early in 1988.

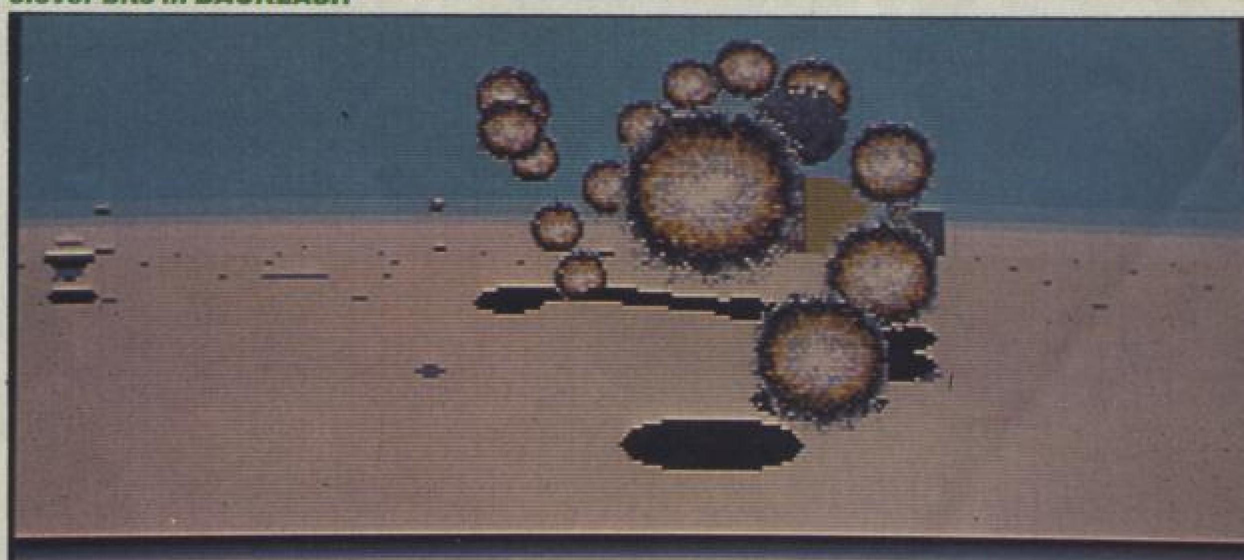
BACKLASH

Paul's second project *Backlash* could be described as an Atari ST-only version of *Encounter* – only it's far, far superior in terms of gameplay, and offers an even greater improvement in the filled 3D graphics. Solid, detailed objects move around, in and out of the screen at incredible speeds, even when there are dozens of them on screen! The effect is mindblowing – find out for yourself by going to the **Novagen** stand at this years' Personal Computer World show. Paul, *Damocles* and *Backlash* will all be there.

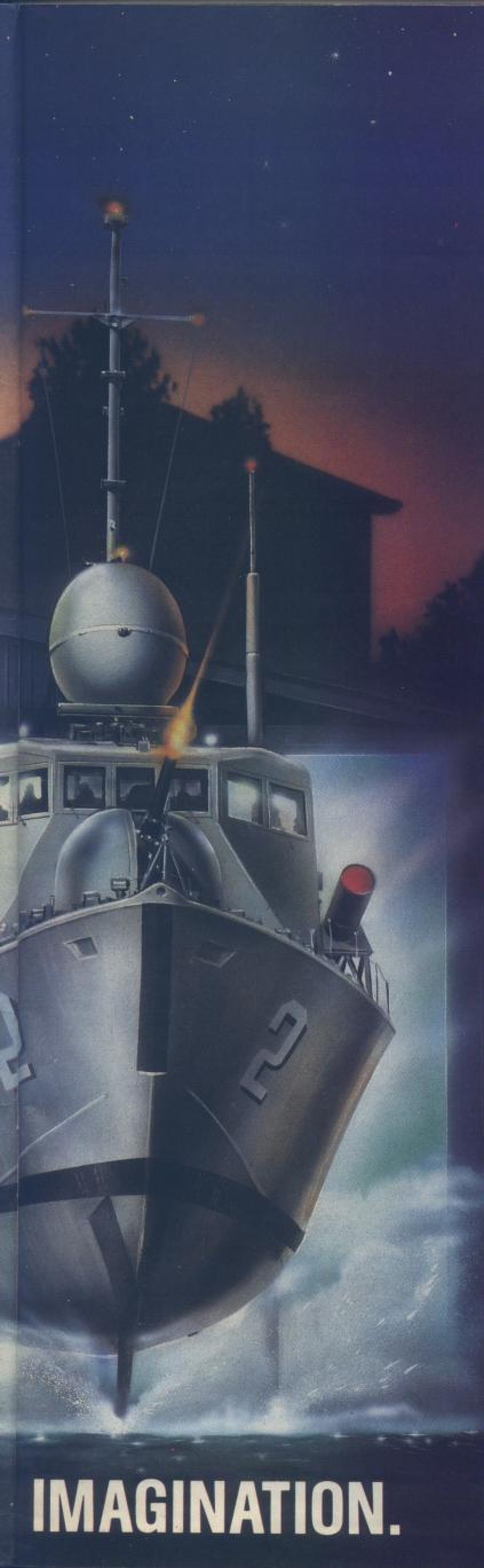
ATARI ST: this screenshot fails to convey the impressive planetary movement in Paul Woakes' sequel to MERCENARY . . . DAMOCLES



ATARI ST: Mo Warden provided the detailed graphics for Paul Woakes' clever bits in BACKLASH




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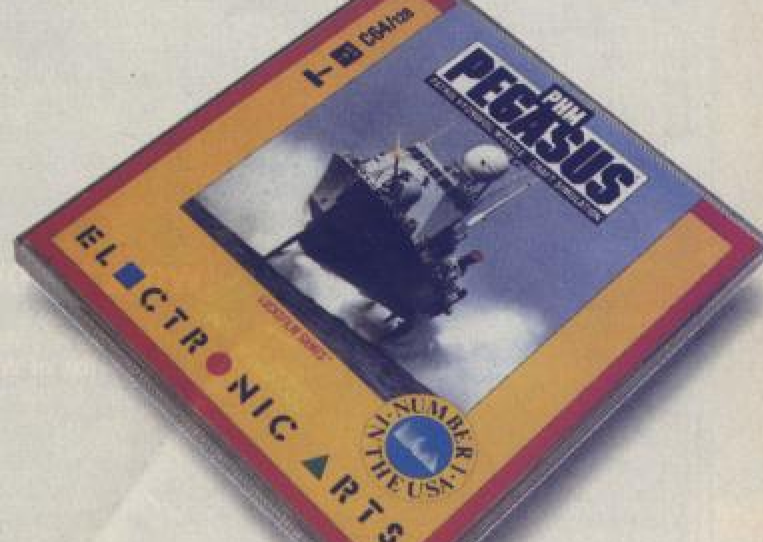
It's 7.00 in the evening. You've just finished another meal. You should do your homework but something is calling you from the garage. Something that would terrify the neighbours. Something agile, fast and deadly. **Pegasus**-the Patrol Hydrofoil Missilecraft. The temptation is just too much.



the authentic handling of NATO ally hydrofoils: US, Italian and Israeli. 76mm water cooled naval gun, Harpoon and Gabriel missiles.



8 real life missions and on-screen maps.



Electronic Arts software is available on a wide range of home computers including: Commodore C64, Commodore Amiga, Atari ST, IBM, Spectrum and Amstrad.

Electronic Arts. 11-49 Station Rd. Langley. Slough. Berkshire. SL3 8YN England.

WAR WITHO

Fantasy battle games in which no-one gets hurt are starting to catch on as non-contact sports. Every year, large sums of money are harvested from the public in America, where games like *Combat Zone* and *Photon Center* are franchised by parent companies to independent operators – the route that McDonalds used to get a fast-food outlet in just about every major town in the civilised world.

Several 'battle-emulations' like *Combat Zone* exist, where people fire harmless splodges of paint at one another using special guns – safety glasses are needed, and if you value your designer jeans or executive suit, protective clothing is vital. Teams compete against each other in short games lasting around half an hour with the overall aim of capturing the opponents' flag. The rules are simple – no physical contact is allowed, and a player who is hit by paint is removed from the current game and relegated to a 'dead zone' until the next game begins.

Bystanders to such pigment pugilism stand a good chance of being splattered, or even injured, so play needs to take place in isolated zones, generally under the control of marshals. Companies buy the franchise for a geographical catchment area, acquire sites and charge players for the loan of equipment and use of the site. Several types of paint-gun game have been set up in this country, and you should expect to pay at least £20 for a day's play. There's no way any sensible person would attempt to buy and use paint-firing equipment privately – at the moment the only way to participate in this kind of gaming is by joining organised sessions.

LIGHT FANTASTIC

In the past three and a half years electronic tag has swept across North America and Japan – now the craze is catching on fast in Europe. The principle is straightforward: send a beam of light at a target on your opponent and if it hits a sensor you remove a 'life' from your 'enemy'. Light is clean and non-messy, and providing there's not too much of it, totally harmless to people and property. You don't need protective clothing to play electronic or 'laser' tag, and there's no real need for formal game organisation – you can practice or play in your own backyard.

George A Carter III, (who could only be an American) founded a company way back in 1984 after seeing the film *Star Wars*. That company, **Photon Entertainment Inc**, has already made him millions of dollars. It all began in Dallas where the first Photon Center was opened in April 1984, and people are still queueing up today to spend $3.00 for a game – a game that lasts for less than seven minutes. This year, the original Dallas Photon Center is likely to take nearly $¾ million dollars at the door, and there could be as many as 40 Photon Centers in existance by this Christmas.

What do you need to set up a Photon Center? Well, for a start the franchise costs $75,000, and then you need premises and equipment – which could set you back anywhere between $400,000 and $1.2 million according to a report in **USA Today**. The game itself is played inside a large indoor arena which is usually filled with artificial mist, accompanied by loud music and flashing lights. Players use a special gun that fires harmless, invisible light and don special equipment, including a helmet which registers hits received on an internal buzzer

It all sounds great fun, but at the time of writing there's no news of the Photon Center coming to these shores in the foreseeable future. Don't despair though. George A Carter III is a resourceful businessman. He's licensed the Photon concept to a number of companies, including American toy manufacturer **LJN** and 'home' versions of the Photon Center kit are currently available all over the world. You, too, can become a *Photon Warrior*.

WORLDS OF WONDER

Another leading American toy company, **Worlds of Wonder**, developed a light-tag system called *Lazer Tag* which has achieved a phenomenal level of sales in the States. *Lazer Tag* attracted interest from **TSR** (the people who brought you *Dungeons And Dragons* amongst other games), and is now developing as role-playing sport, with tournaments being organised between teams of American college-students. The action takes place in a scenario set in the year 3010: 'No player is truly complete until he is on a Lazer Tag team competing against other teams across the galaxy.'

Last year in America, LJN's *Photon Warrior* and World of Wonder's *Lazer Tag* were amongst the biggest selling toys in the run-up to Christmas. A whole host of electronic tag systems is now available through toyshops in Europe, and toy industry predictions for this Christmas see electronic tag sets amonst the best sellers in Britain. You can spend anything between £20 and £100 or more equipping yourself for laser tag, and price isn't the only difference between the systems on offer.

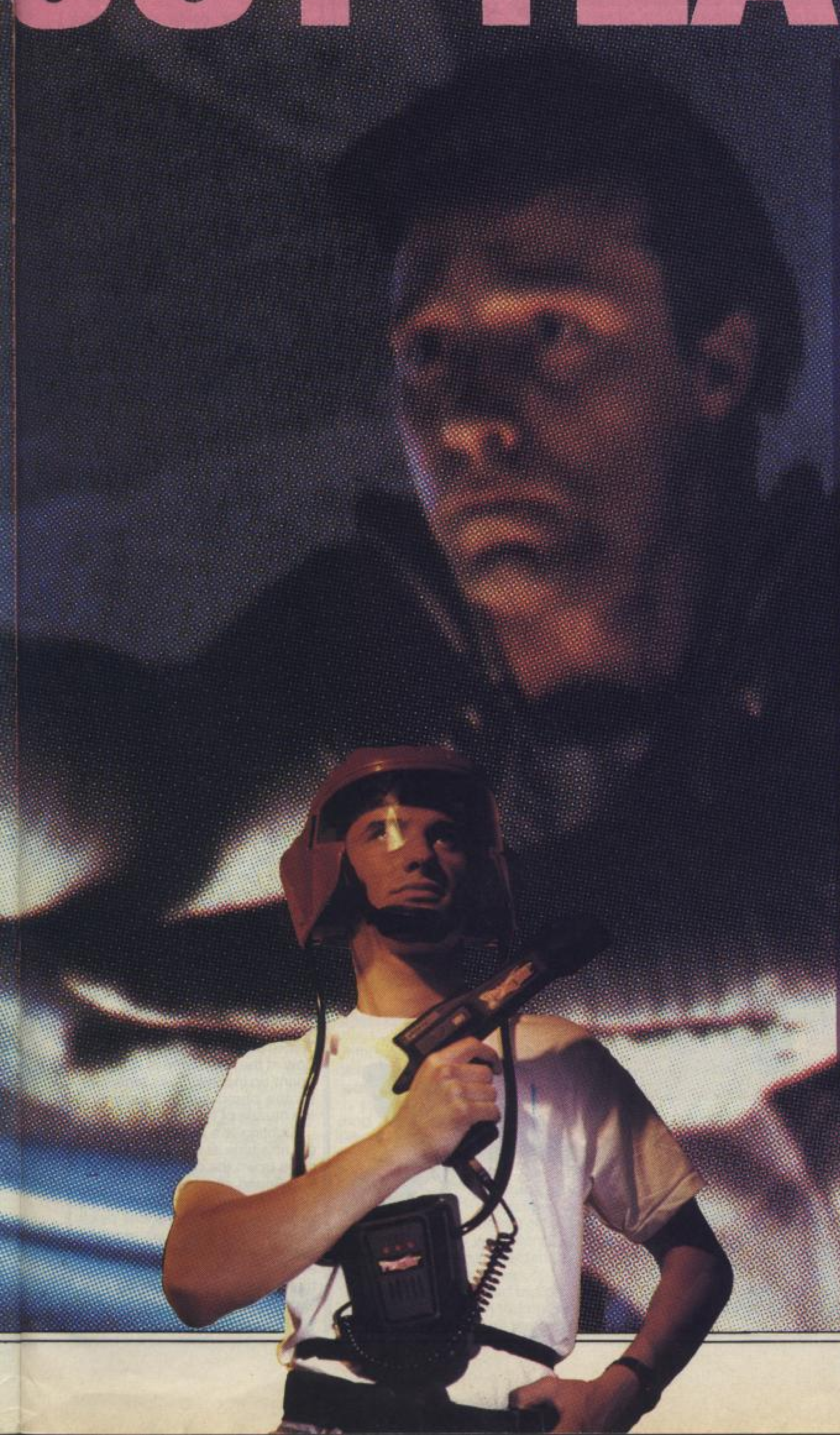


Whether it's paint or light you're firing, these techno-tag combat games are a lot of fun to play. We've already started to get to grips with the paint games and should be able to bring you the results of our investigations next issue, but at £20 or more for a day's play such games quickly prove expensive. A one-off investment in laser tag equipment opens up a world of endless fun - providing your friends buy similar equipment too.

We decided to check out the electronic tag systems currently available, so we conducted fairly rigorous tests and can now report back on their performance. If you're thinking about asking Santa for a laser tag set this Christmas, there's some essential reading coming up . . .

Light is clean and non-messy, and providing there's not too much of it, totally harmless to people and property

OUT TEARS



TESTING STRATEGY . . .

All the laser tag systems work on the same basic principle: the gun fires a light beam – white light, infra-red or other wavelengths – and a 'hit' is registered by a sensor, which detects the arrival of the beam. All the systems currently available use separate light-sensitive sensor units with their own power source, with the exception of *Laser Combat* which has the sensor mounted in the gun and detects light reflected back from special reflective material on the target.

Sensors (or the reflective tabard in the case of *Laser Combat*) may be worn by a friend who runs around trying to shoot you, or they can be used as stationary targets in games or for practice. Some of the sensor systems are quite elaborate in that they keep count of the hits or 'lives' lost, or offer several modes for target practice, while others are simplistic, only capable of announcing single hits with a bleep not too dissimilar to that issued by a cheap, Taiwanese digital watch.

HARD TIME

Most of the glossy cardboard boxes that try to tempt you buy their contents show dramatic action pictures of the laser tag sets they contain, and generally there is some mention of the range from which the gun can hit the target. Obviously, as the sensors detect the arrival of a beam of light, they tend to perform better in the dark, and claims for 'indoor' and 'outdoor' ranges are often made by manufacturers.

Not many people have access to a large hall that can be plunged into darkness during the day, and while midnight laser tag might be fun, it could land you in all sorts of trouble . . . So we decided to give the tag sets under review a bit of a hard time – they were all tested one sunny afternoon in a car park which is completely open to the glaring rays of the sun. One set of equipment performed rather strangely under these conditions, and so was tested again as night was falling – but it still exhibited the same rather idiosyncratic behaviour . . .

Industry predictions for this Christmas see electronic tag sets amongst the best sellers in Britain

RANGE-FINDING

We did our best to determine the maximum range for each system fairly, and the diagrams that accompany each review show the point at which it became difficult to achieve one hit out of ten shots. After testing the range, we tried to find out the 'field of view' of each sensor. Standing on a line 32 feet away from the sensor under test, we moved further and further to one side, firing continually until it became impossible to score a hit. As you will see from the results, there's quite a difference between the systems when it comes to trying to score hits from an angle.

Finally, as some measure of accuracy is called for in shooting we attempted to assess how the sensor targets reacted to near-misses. Only two of the guns have adjustable sights, and while our tests weren't conducted using a gun stand and shouldn't be regarded as definitive, the results showed that there was a wide range of sensitivity among targets. The accuracy test was conducted by shooting from 32 feet and aiming at points above, below and to either side of the stationary target, moving progressively further away from the centre of the sensor.

A few words of caution: the prices we have included in the review panels are intended only as an indication of the retail prices. Considerable savings may be made – up to £20 – by shopping around.

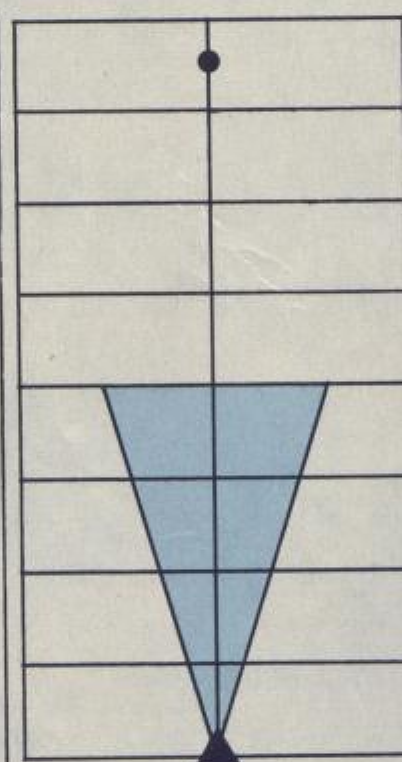
KEY
●: ACCURACY RANGE.
▲: SENSOR POSITION.
FIELD OF FIRE AT TARGET.
FIELD OF FIRE AT ENEMY'S GUN.
SCALE: 1CM TO 4FT.

LASERTRON

UK Supplier: Bandai UK
Guide Price: £20
Contents: one gun, one chest target with webbing, decorative stickers

BATTERIES REQUIRED
Gun: 4 x AA
Sensor: 1 x PP3

AVAILABLE EXTRAS
LASER TANK SET – not exactly an 'extra'. Includes an attractive, militaristic pistol and a tank that is driven by wheels. A receiving sensor on the front of the tank detects hits. Scoring hits has a dramatic result, apart from the obligatory explosion noise – first one track springs off the tank, then the other track, to be followed by the entire turret unit. Finally the carcass of the tank tips to one side and expires. All this for around £35 . . . The tank requires 2 x C and 1 x PP3 batteries to operate, while the Tank Pistol take 4 x AA batteries.



Given the attractive nature of the pistol that accompanies the Laser Tank, it is a shame that so little effort has gone into the design of the Lasertron Pistol. It's plain, grey, and even when the stickers have been applied, it remains a fairly dull-looking object that squawks when the trigger is pressed and emits an infra red beam. The Lasertron breastplate-receiver on the other hand is elegant and features a LED matrix that counts the hits received from 0 to 9, beeping out their arrival fussily, just like a digital watch beeping out the hour. The tenth hit zeros the display and causes a higher pitched sequence of beeps. Unfortunately for cheat-free gameplay, the unit resets to zero silently when the side-mounted reset button is prodded.

PACKED UP

Our review Lasertron gun packed up before we had completed the tests, so we carried on with the gun that came with the tank, assuming their performance to be similar. In straight-line firing we discovered that the gun has a range of around 60 feet. The Lasertron pistol has a ridge running along the top of the barrel which aids sighting, while the Tank pistol has 'proper' pistol sights which allowed very accurate shooting in a straight line up to the 50 foot mark. The chestplate detects a 'shot' from 32 feet when it arrives within a foot of the sensor, and the digital read-out is visible at quite a distance. The sensor's 'field of view' compared favourably with those of other systems.





Once again, the final word goes to our Technical Department . . . 'The Lasertron gun is a simple transmit-only device that uses an infra red LED to make the beam. The ubiquitous 555 timer chip – used in everything from doorbells to parcel-bombs – generates the firing sound, directly driving a small earpiece. The receiver uses a photo-diode and a LM567 amplifier to sense incoming shots. A custom chip counts up the shots on a clock-radio-style single-digit display.'

PHASER F
ACTION SE

The Phaser Force generates a beam of white light with a Xenon tube – like the ones in found in pocket cameras that have built-in flash units. The gun doesn't come with any stickers and apart from silver 'Phaser Force' lettering, relies on a couple of transparent, horizontal plastic bars for decoration. When the trigger is pulled, light shines through these decorative bars, giving a futuristic, 'Dr Who' type of effect. The sensor unit can be clipped onto a belt and is similarly utilitarian in appearance, featuring coloured LED's that record hits, and an on-off switch that can be used to set the unit for daylight or artificial light conditions.

The recharging circuit that

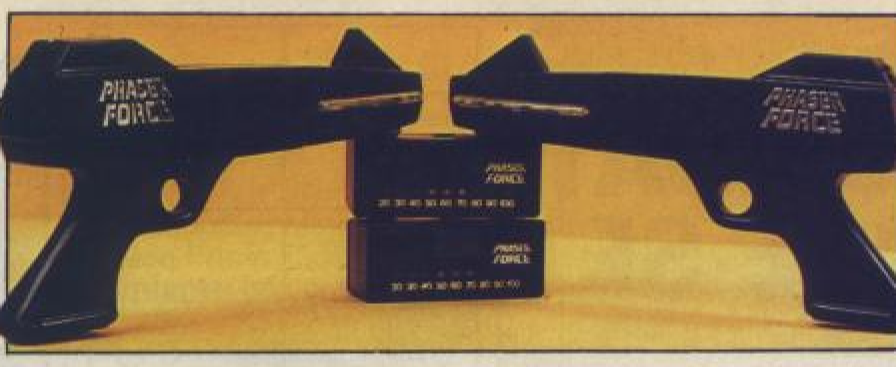
PHOTON D



Licensed from the original Photon Center game in America, the full Photon Warrior set is without doubt a visually impressive system. The beam is generated by a LED that emits an invisible infrared frequency, rather like a TV remote control. The gun is a bulbous, black moulding that fits into the hand easily and sports the preapplied Photon logo on either side. Three red LED's arranged in a window at the user's end of the barrel count up incoming hits registered by the photo-diode mounted on the muzzle of the gun.

Sighting is a little tricky – there are no sights as such, just a raised ridge down the centre of the 'barrel'. Sound effects are impressive – pressing the trigger activates the beam and generates a four-pulse futuristic noise, while an incoming beam registers a hit with an falling, electronic ricochet sound. The fourth time a gun receives a hit a fairly impressive explosion noise is made to indicate that this particu-

FORCE SET



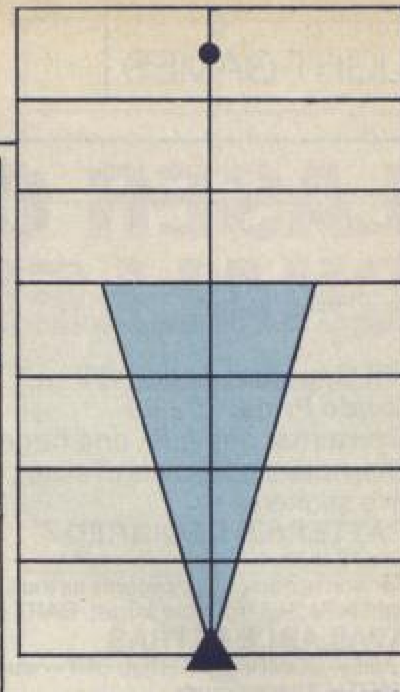
UK Supplier: Michael Angel Toys
Guide Price: £49.99
Contents: two guns, two targets
BATTERIES REQUIRED
Gun: 2 x AA and 1 x PP3
Sensor: 1 x PP3
AVAILABLE EXTRAS
RIFLE SET – one rifle, one target: £29.99
BATTLE GAME – one gun, one chest target, one head target: £39.99
TARGET SET – one gun, one target: £24.99

drives the flash tube whines just like a camera flashgun after you've pulled the trigger and a quiet, squeaky creak noise is generated to accompany the flash. The recharging cycle is rapid, allowing one shot to be fired every second – and the whine isn't likely to give you away to an opponent, although the noise could become irritating when holding the gun close to your face in order to aim. Successive hits on the sensor cause the next LED in a row of nine to light up, and each hit is denoted by a short squeak until the LED above '100' is lit up, when a continuous tone is emitted until the unit is switched off and on again to reset it.

ROUND BEAM

The Phaser Force gun shoots visible light in a circular beam – the diameter widens over distance – and has an effective range of some 50 feet when firing straight at the target, which has quite a wide field of view. The sights are part of the moulding which makes up the barrel and so can't be adjusted – they take a bit of getting used to. When firing from 32 feet, the sensor tended to accept shots aimed within a foot in any direction.

Our Technical Department adds: 'The Phaser Force receiver is a straightforward design – it uses three low-power CMOS chips to drive its nine-light scoreboard and small earpiece. There's a hefty transformer to generate the voltage required by the flash tube, and you could get quite a shock by touching the board inside the gun, even after the batteries have been removed. Don't take your Phaser Force apart or play with it in the bath!'



DOUBLE WARRIOR SET



UK Supplier: LJN UK
Guide Price: £80
Contents: two guns, two helmets with chest sensors and webbing, a target and two 'ammunition' belts
BATTERIES REQUIRED
Gun: 1 x PP3
Sensor: 6 x AA for the chest unit and helmet
1 x PP3 for the target
AVAILABLE EXTRAS
This is the top-of-the-range set, containing all that is needed to equip two players fully. Photon equipment may be collected in modules:
SINGLE PHASER SET – one gun and one target: £20
DOUBLE PHASER SET – two guns and two targets: £30
SINGLE WARRIOR SET – one gun, one target, one helmet, chestpack and webbing together with the ammunition belt: £50
ACTION FIGURES – model figures, measuring a little under 9'' tall that require one PP3 battery and are capable of firing at you or at each other and registering hits on their opponents. If a figure is hit, its firing pattern is disrupted for a while. The Action Figures cost £9.99 each and four are available in the UK – one 'goodie', Leon, and three 'baddies', Bhodili, Warriarr, and Destructarr.

lar Warrior is out of the game. Pressing the Reset button on the side of the gun refreshes the stock of lives, and a loud squeak is made to make sure that no-one gets away with cheating.

CHESTPACK

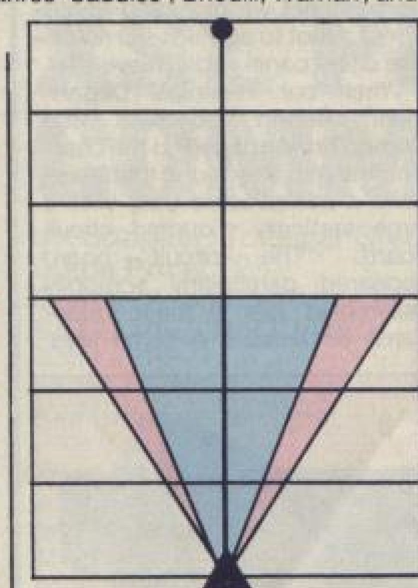
The helmet and wired-in chestpack is effectively a repeater unit. A coiled lead that ends in a standard D-Type joystick plug connects to the butt of the gun and allows a two-way transfer of information to take place. Hits on the receiving diode mounted on the forehead of the helmet are recorded by the gun, and the gun's sound effects are amplified via a speaker on the chest unit which is held in place with webbing supplied. For extra fun, five red LED's mounted on the brim of the helmet flash during play.

The target unit is rather less exciting. It contains an LED indicator that flashes on and off – a wheel governs the duration and frequency of the flashes – and the unit only records hits when the LED is showing a green light. The target is mute – the reward for hitting the sensor when the green light is showing is . . . a red glow from the LED.

SHORT-RANGE SNAG

Unfortunately the Photon system has a snag – the black plastic case doesn't stop all infra red radiation, so you can set off the sensor at short range by shooting into the side of the gun. More significantly, the fact that the gun unit resets if the trigger isn't pulled for two minutes means that gameplay could be marred – remember, a reset eradicates the record of lives lost. Lively games with plenty of action shouldn't be affected by this design quirk, however . . .

Applying our 'standard test procedure' to the Photon Warrior set proved difficult because the guns,



whether connected to the helmet units or not, had a strange habit of recording hits at random, even when the other gun hadn't been tired. Thinking we had a faulty set, we tried another we happened to have in the office (strange, but true!) and encountered the same problems. As the sunlight could have been affecting the Photon Warrior guns adversely, we waited until night fell.

Sadly, the same random hits were recorded on all four guns during the foray into the night – particularly if we waved them in the direction of the sodium streetlights. Other strange effects were noticed – the Photon guns we had wouldn't fire if they were within a foot or two of the Phaser Force gun, for instance . . . None of these problems involved the static target unit, which accepted shots placed within a foot of it in the accuracy test.

ROMPING AROUND

Despite these problems, we discovered that the Photon Gun has an effective range of some 50 feet – although it is a bit disappointing to lose a life periodically when you're not firing and no-one's firing at you! The target sensor had a wider 'field of view' than either the helmet unit or other gun, as show by the diagram. The gear is a lot of fun to romp around in, but while the strange effects we noticed may have been particular to the two units we received (from two separate sources) it seems unlikely. If the the problems we discovered are in fact universal, they would mar Photon Warrior gameplay.

Over to the Technical Department for a few concluding words: 'The Photon circuit board uses a bizarre mixture of old and new technology. Most of the electronics is packed into a 20-pin custom chip, but about 15 separate transistors are also used, and the half-watt speaker is driven through a transformer, just like a 1960's pocket radio. It's not obvious why the sensors should misbehave as they did.'

PRESS ANY KEY

LASER COMBAT CHALLENGE SET

UK Supplier: Action GT
Guide Price: £59.99
Contents: one gun, one target vest, one mobile target (the Bio-Activated Roving Target, BART for short), spare reflective stickers

BATTERIES REQUIRED
Gun: 3 x AA
Sensor: not strictly applicable as the sensor is part of the gun, and picks up light reflected from the target. BART needs a PP3 to get moving

AVAILABLE EXTRAS
LASER COMBAT PATROL SET – essentially the Challenge Set without BART: £45 maximum

Like several of the laser tag sets, this one looks rather dowdy when first removed from the box – BART and the gun are made from matt-black plastic and need to be decorated using stickers taken from the sheet supplied. The gun itself has an over-large trigger guard which doubles up as butt and grip, and is a little awkward to hold. BART is capable of trundling across any smooth surface in one of three modes of movement and makes target practice more exciting than usual, although the little beast doesn't travel too well on carpet and can't cope with car-park grade tarmac.

Despite its name the Laser Combat gun fires ordinary light from a torch bulb which lurks under a clip-on cover – so you can replace the bulb easily if it burns out. Unlike all the other laser tag systems on offer, Laser Combat doesn't have a remote, separately powered sensor but relies on light reflected back from the target to activate a photo-diode in the gun itself. Special reflective stickers are included in the set and need to be added to the front and shoulders of the chest-harness and to BART before the gun will start registering hits. A few spare stickers are included, which may come in handy for target practice games.

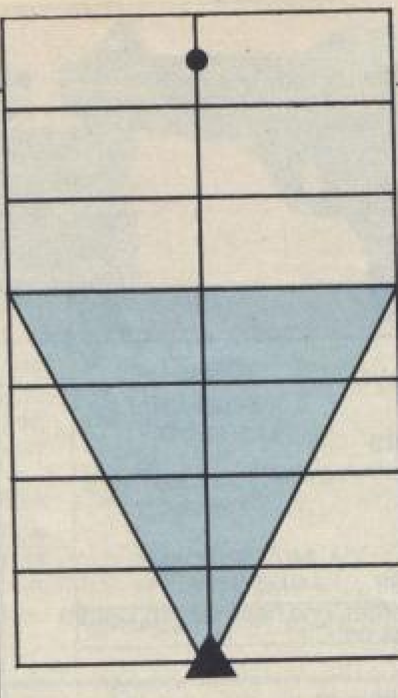
PULSES

So that the sensor doesn't get confused by background lighting, the beam is pulsed – when the trigger is pulled, the bulb glows for a couple of seconds and you have plenty of time to spray the beam about. The main advantages of this unusual design are that you can actually see light hitting your target, and are never in any doubt whether you've scored a hit as the gun responds by hooting loudly to an incoming shaft of light. Success is recorded by a trio of coloured Light Emitting Diodes (LED's) mounted inside a wedge-shaped panel on top of the gun – just as well, because the gun's firing noise could be confused with sound made by an incoming 'hit'. A red LED on top of the 'barrel' glows when the trigger is pulled, and may help to avoid confusion.

RANGE

A range of 50 feet was comfortably achieved when shooting straight at a stationary target in our tests, and as the diagram shows, the 'field of view' of the target is quite wide. In fairness, we should mention that the reflective material is flexible – which might complicate matters when firing at a mobile target that distorts the reflective surface as it moves. By way of compensation, the Laser Combat gun offers a simple but effective and adjustable rubber sight which clips over the end of the 'barrel' of the gun. There's a fair bit of leeway granted when firing at a target – from 32 feet we managed to aim about a foot to any side the reflective chest panel and achieve a hit.

When our Technical Department (**Simon Goodwin** and **Franco Frey**) opened up the Laser Combat gun they found that it was quite a complicated unit, with a large vertically mounted circuit board. 'The circuit board appeared particularly scrappily assembled, even by the low standards acceptable in some toys, and was the poorest we found when opening up the guns in for test, with blotchy soldering and parts clinging to the board at odd angles. One of the resistors was broken in the unit we examined, although this didn't seem to affect the performance.'





READ AL[L] ABOUT [I]T

Two handbooks have been published by TSR to accompany the Laser Tag system – *The Official Game Handbook* and the official *Tournament Book*. The game handbook encourages the player to take a role-player's approach to Laser Tag games and recommends building up a persona.

Practice programs and team games are listed, together with rankings for Laser Tag players – who gain status by their prowess at duelling or team-play. The official tournament book re-iterates some of the 'regulations' of the sport – which include common-sense safety rules – and as its title suggests, develops more complicated game ideas.

Wisely, the authors insist that Laser Tag guns shouldn't be used

LASER TAG STA[R] GUN AND STARS

UK Supplier: Mattel UK
Guide Price: £58.99
Contents: one gun, one sensor, one belt-clip

BATTERIES REQUIRED
Gun: 6 x AA
Sensor: 1 x PP3

AVAILABLE EXTRAS
STAR VEST – a silver-effect fabric tabard with a Velcro pad that takes the Starsensor: £25.25
STAR HELMET – a rigid plastic helmet with a sensor on the dome that has a 360° field of vision and LED's that keep track of hits received: £59.99
STAR CAP – a floppy, peaked cap version of the Star Helmet: £21.99
STAR SENSOR – the standard sensor unit on its own: £21.99
STAR BASE – a programmable unit with several sensors that can also fire. Not currently available in the UK

The Laser Tag gun is by far the most elegantly designed unit, and is the only piece of equipment we reviewed that is built like a tool, rather than a toy. The case is made of good-quality ABS plastic with a glossy finish, and is ingeniously clipped and screwed together.

In use, the Lazer Tag system proved impressive – and clearly led the field when accuracy, range, field of fire and design elements such as comfort, ease of use and options were taken into consideration. These capabilities don't come cheap, however – the price is high, but you definitely get performance to match.

We were stunned by the test results. The car-park simply wasn't big enough nor our hands steady enough to test the Starlyte to the extent of its capabilities. A range of some 200 feet can easily be achieved, and so far as we could determine, this range held good for the 180° field of view the Star Sensor affords. The sensor was fussy, too, refusing to detect shots that didn't 'fall' within 6" or so from 32 feet when the wide beam was used.

Extra touches include a little switch that toggles between a wide and narrow beam, and a silencer switch that mutes the satisfying electronic 'kerpow' that the gun emits. The sights, factory set for accuracy and non-adjustable, are a dream – a little red dot appears in a sighting tube that runs along the barrel. A good eye and steady hand are all that is needed for consistently accurate shooting.

MASTERLY DESIGN

The sensor is a masterpiece of design. Apart from unsurpassed field of view, it features a heartbeat tone that increases in volume and pace as hits are recorded, adding tension to gameplay. Overall, Lazer Tag equipment exceeded the performance of all the other systems we evaluated, by a generous margin. Sadly, so does the price.

The GAMES MACHINE Techni-



LL
IT . . .

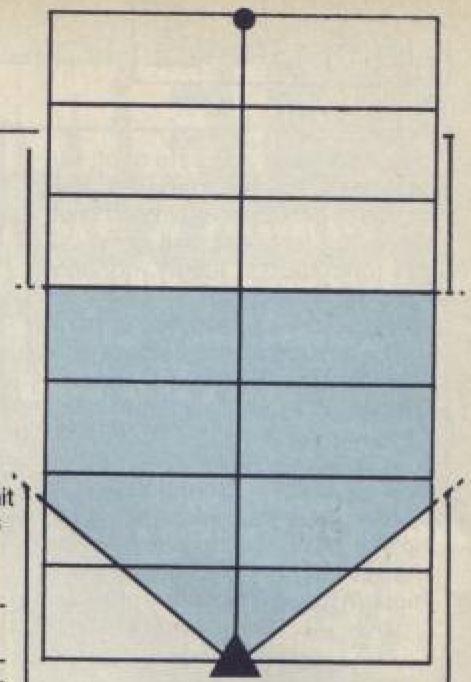
in places where the authorities might mistake them for dangerous weapons – although the book doesn't refer to the incident in which a Californian teenager was shot and killed by a policeman who mistook his laser tag gun for a real one, according to a report in **USA Today**.

Both of TSR's books, which are officially linked to Lazer Tag equipment, are available in the UK at £5.95. If you need inspiration, most of the game ideas they contain are applicable to any laser tag system.

'Competing with honour and behaving in a sportsmanlike manner is just as satisfying as winning the contest,' the books remind the reader. Techno-cricket, really . . .

ZILLION

UK Supplier: Matchbox
Guide Price: £30
Contents: one gun and lead, one battery-powerpack, one sensor
BATTERIES REQUIRED
Gun: 2 x C for powerpack
Sensor: 2 x AA
AVAILABLE EXTRAS
Our package included a leaflet which described an add-on scorecounter unit which plugged into the sensor. Matchbox advise that plans to market this product have been shelved.



Yes, this *is* the same gun as the one supplied with the Sega console. Well, it is made by Sega after all – they've put a different set of works inside, that's all! The Zillion gun, like Phaser Force, produces its beam with a camera flash unit. There's no speaker inside the gun, but the charging circuit produces a clear, high pitched whistle for a couple of seconds after each shot – not very satisfying. A red light shines continuously from the back of the gun, which can make it difficult to use the crude but otherwise useful sights.

The Zillion gun fires a thin vertical rectangle of white light, which diverges quickly from a couple of centimetres high at point-blank range to 2 feet high at 30 feet. The battery-pack idea makes the gun itself remarkably light to hold and use, but the 14" cable to the gun tends to come unplugged just as you reach full stretch in your authentic LA Cop 'eat lead' posture . . .

TRIANGULATION

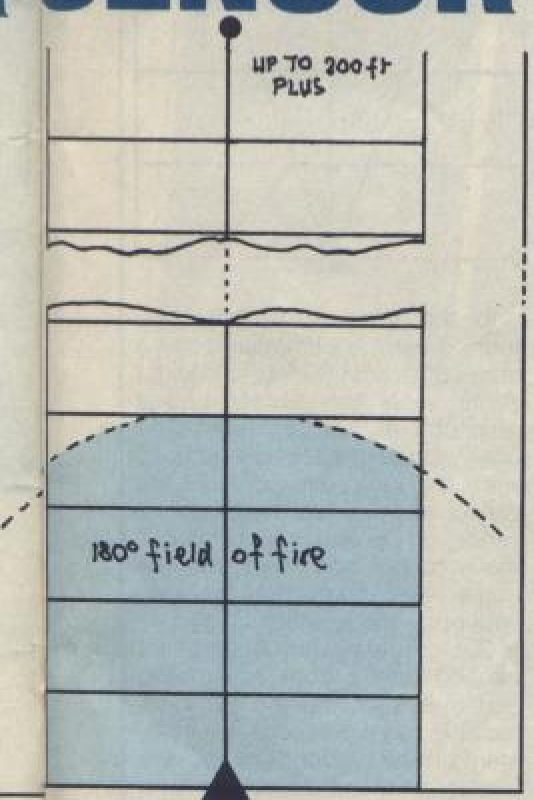
The triangular sensor follows a similar pattern to the Photon target: you aim at a green light, which can be made to flash in three modes. A hit makes a red light flash, accompanied by a flurry of high-pitched trilling noises from a telephone beeper. The photodiode contained in the sensor copes very well with shots at acute angles (as the diagram shows) thanks to the wide beam and a fish-eye lens on the front of the receiver. The batteries that power the target clip onto the back, and although there's no cover to hold them in place, they didn't fall out during our tests, and that's one less part to get lost!

During the tests we found that sunlight could easily trigger at hit on the sensor, and the gun had a tendency to fire low. Overall, Zillion is a pleasantly presented unit that works well.

For the first time, our Technical Department had nothing to add . . .



RLYTE
R SENSOR



cal Department shared our enthusiasm, marvelling at the thought that had gone into the design and manufacture of the Starlyte. Here are a few of their observations . . .

'Every little design detail has been taken care of. Laser Tag uses a real semiconductor laser – as in a Compact Disk player – to generate its beam, unlike all the other guns examined. A chunky power-transistor triggers the release of a precise pulse of infra-red laser-light, and the laser fits behind a lens, about three centimetres back from the end of the gun, so you can't damage your eye by getting within the laser's short focal length.

PINHOLE SCREEN

'An orange LED, pinhole screen, and a pair of lenses project the aiming dot in the sight. A humble torch bulb, under an access hatch, makes the end of the gun flash red when you fire, and a small 100mW speaker provides sound-effects.

'The Laser Tag receiver uses a mixture of standard and custom components. Incoming shots are detected by two angled photodiodes in the Star Sensor, (more in the Helmet and Cap) whereas other units make do with one. It's this, and the power and precision of the laser itself, that makes the Laser Tag system so tolerant of 'wide angle' shots.

'Even the trigger switches, for the sight and the main beam, are arranged at right angles to the fire button, so the same pressure is applied to the switches via a small arm regardless of how hard you pull the trigger. This should make the switches last much longer than in the other guns, especially if they are roughly treated.'



XSL PHASER COMMAND

UK Supplier: Trafalgar Group
Guide Price: £25
Contents: one gun, one sensor, one holster with belt loops
BATTERIES REQUIRED
Gun: 1 x PP3
Sensor: 1 x PP3
AVAILABLE EXTRAS
None

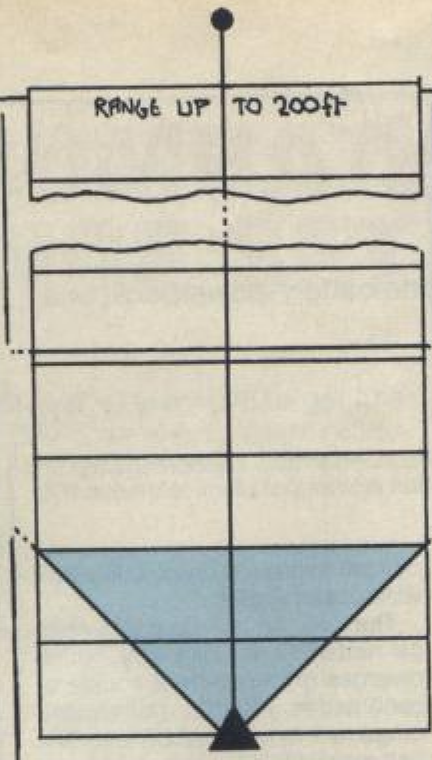
The Phaser Command set appears fairly straightforward at first, and potentially unexciting. The gun is modelled on a 'traditional' pistol and is decorated with single sticker. The trigger behaves more like a switch than a trigger – which is a little disconcerting to begin with, but the positive click action becomes quite friendly after a while. The only sound made is the click of the trigger itself, so a single red LED mounted just behind the fore-sight winks to remind you that the trigger is being pulled.

The absence of firing noise is almost compensated for by the target unit, which may be clipped onto a belt. The output of the sensor is LOUD! It produces a sequence of ear-piercing monotonous squeaks through a small speaker, and sounds like an overdriven operating-theatre pulse monitor. Six red LED's disappear one by

PRESS ANY KEY

one after each accurate shot, but there's no 'hit' sound – instead the squeaks get faster after each shot. Once the last light has gone out the tone sounds loudly, continuously – wheeeeeeeee! – and painfully if you're standing too close.

The packaging reminds you that you can play XSL tag with a friend, even if he or she has another make of laser tag equipment. All you have to do is swop sensors and you're away. Somehow XSL Phaser, with its minimalist plastic holster, rowdy sensor and silent, odd-triggered gun doesn't have much in the way of instant appeal.



DISPELLED

The initial, somewhat negative impressions are soon dispelled when you start to use the equipment. The gun matched Lazer Tag for range – and although there are no bells and whistles (except for the over-bearing sound-system in the target), XSL Phaser Command performs astoundingly well. And that rowdy target has the edge over Laser Tag's more subtle Star Sensor – you have no difficulty in hearing that you've scored a hit, even from 200 feet away.

The sensor unit has a wide 'field of view', and seemed unaffected by ambient light. Although the gun doesn't provide much in the way of feedback, the traditional gunsights work well, allowing accurate shooting.

For the price, XSL Phaser Command represents excellent value, and trades frills for increased performance. An excellent starter system if your pocket isn't bottomless . . .

Time for the Technical Department to have their say: 'The XSL Phaser system is extremely simple in internal design. A lone 4069 chip is used to pulse a red LED indicator just behind the fore-sight, in synchronisation with the infra red LED that provides the beam, while the target unit uses the same components as several other systems – a photo-diode, small lens and 567 amplifier – though it seemed relatively insensitive. A handful of transistors and a couple more chips handle the sound and countdown display.'





GUNFIGHTER

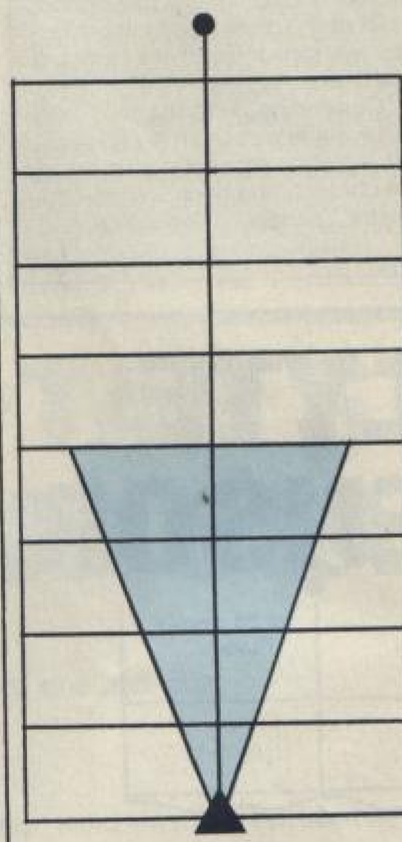
UK Supplier: Spectravideo
Guide Price: £25
Contents: modular set – one pistol, one stock, one adjustable sight, a 'silencer' barrel, one sensor base station, one sensor, and a webbing belt

BATTERIES REQUIRED
Gun: 4 x AA
Sensor: 4 x AA

AVAILABLE EXTRAS
None

From the moment the folding lid of the box is opened revealing the two-tone components that clip together to make up the Gunfighter, this systems looks fun. Neat, James Bond-style design means that hours of fun can be had playing mix 'n' match. One moment you can have a pistol, then the stock can be added, or the sights slid into place – or both. With or without the 'silencer', sir?

The sensor unit also adds a new dimension to Gunfighter games – it can be clipped into the base target unit and worn by your opponent or used for target practice; alternatively, it can be slotted into a recess below the barrel of the gun for one-on-one shootout action. Cleverly, the gun emits two different firing noises, depending on whether the sensor unit is attached or not: a short, falling tweet with the sensor in place (just like a laser would sound in Dr Who), or a two-second electronic rasp if the sensor is remote.



MORTAR SCREAM

Wherever the sensor is located, it can't register more than a single hit – achieved by flashing a red indicator LED and generating an elaborate mortar shell scream and explosion.

The plastic mouldings are covered in 'believable' detail and the gun looks good. However you configure it, it feels neat in use – although the adjustment facility on the sights is more cosmetic than accurate. Neat touches abound – the batteries that power the gun slot into a magazine, which clips into the bottom of the pistol grip, just like a real automatic . . .

In the tests, Gunfighter performed well, demonstrating a range of almost 80 feet in straight shots while the sensor had a respectable 'field of view'. The only disadvantages we noticed were the single-hit nature of the sensor and the fact that with the sensor on the gun, it was a natural move to put one hand over the dome when firing, thus blocking your opponent's shots.

Our Technical Department paused briefly from assembling and re-assembling the set in its multiple configurations to comment on the sensor: 'The red lens covers an elaborate system with multiple infra-red sensors and screens. A special gate array chip provides wide-angle sensitivity.'

REPORTING BACK FROM THE CAR-PARK

Our tests were not conducted under supervised laboratory conditions nor did they take place on an official gun-testing range, but the results should give a reasonably accurate representation of the relative capabilities of the systems evaluated.

Clearly, Mattel's Lazer Tag system may be regarded as the 'professional' system, but it is accompanied by an equally 'professional' price. Add the Star Helmet or Cap, or even a Star Base to the basic Lazer Tag set, and you have a very powerful entertainment system. You also have a largish hole in your bank balance.

The XSL Phaser Command set, although basic, approaches the performance of the starter Lazer Tag set that contains the Starlyte gun and Starsensor. In a system which competes very keenly on cost, selling for about a third of the price of the equivalent Lazer Tag set, you can hardly expect all the frills.

For sheer fun value, it would be hard to beat Spectravideo's Gunfighter – which accounts for the high levels of demand it has attracted in America and Japan. As a result, supply and demand problems mean that it's unlikely that Gunfighter sets will be available in the UK in significant quantities before Christmas.

And that is not to deny the relative merits of the other laser tag systems we examined. The Photon Warrior set leads in terms of dramatic effect at a fairly modest price, although gameplay might be affected by the idiosyncracies we discovered in the two sets we tested. The Lasertron has an elegant sensor system, and the tank is great fun, while Zillion works well and looks good. The reflected light system used in the Laser Combat sets adds a different dimension, as does BART, while Phaser Force has a neat score-recording set up.

COMPATIBILITY

There is a degree of compatibility between systems – we found that Photon guns and the Lazer Tag Starlyte set off the Gunfighter sensor, and that the Photon and XSL Phaser sensors accepted hits from the the Gunfighter. The effective range was reduced in all cases of cross-compatibility, however. The degree of compatibility between systems could be improved by opening up the sensor units and adjusting the tuning where possible . . . not the best way to start a game each time you play with different people.

The best results are obviously to be had if everyone involved in a game uses guns and sensors from a single system – swapping sensors 'between' systems can give some players a major advantage in terms of range and angle of view on the target.

The choice, ultimately, is yours – but it might be worth finding out what your friends have bought, or intend to buy, before investing in laser tag equipment.

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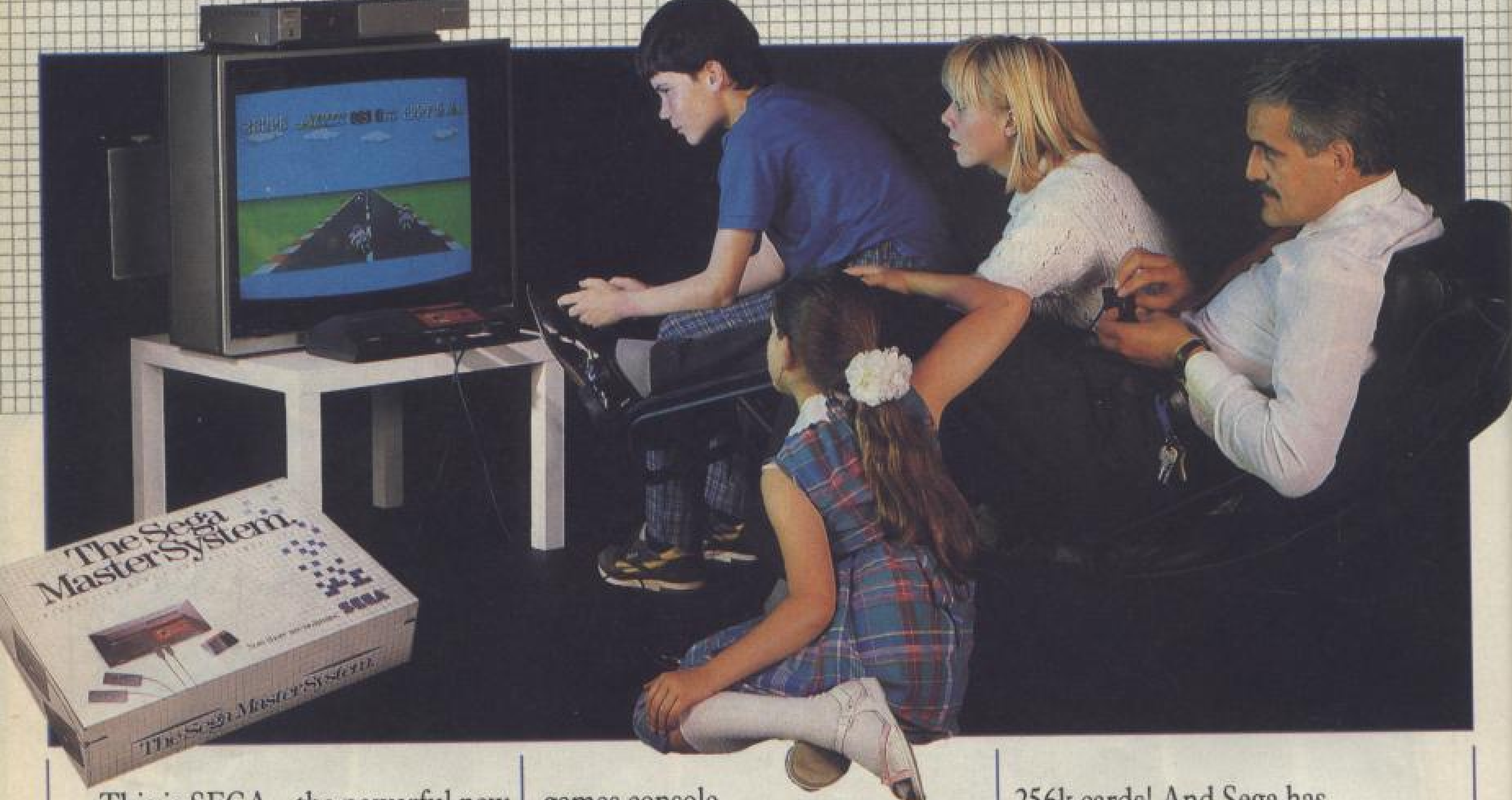
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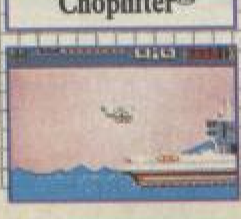
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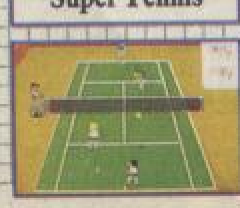
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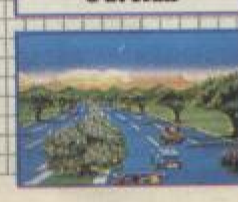
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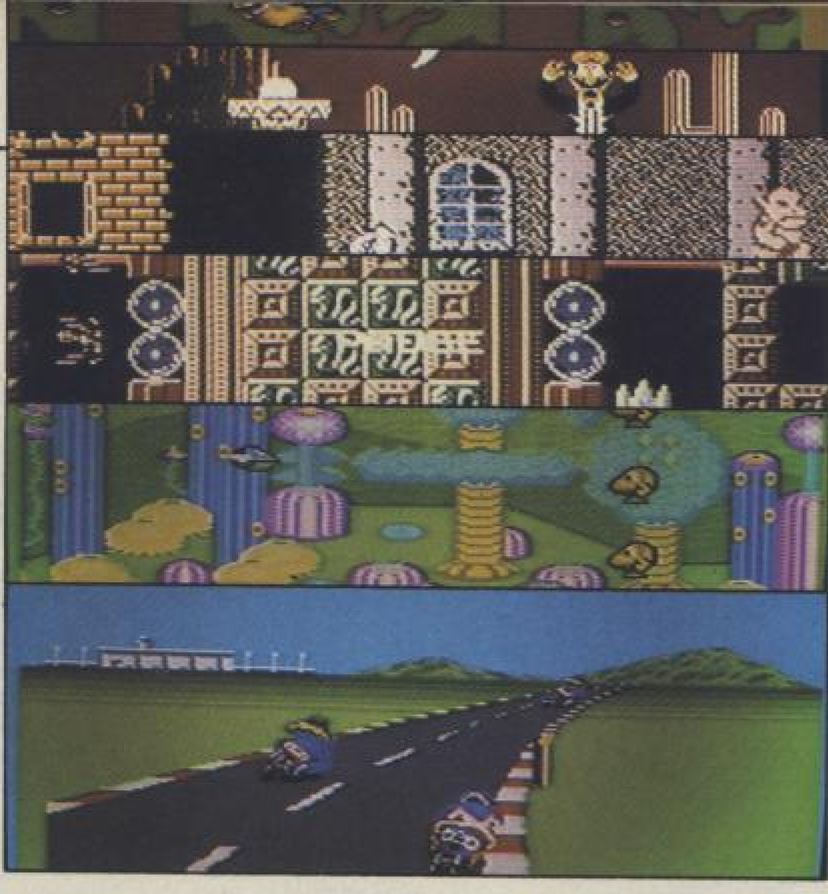
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DUST TO DUST, ATTICS TO ATTICS?

The dedicated games console once took pride of place in the front room of many British homes. But as home computers became a more financially viable and considerably more flexible alternative, the ageing units were relegated to the dark confines of the attic. Now, a new breed of console has surfaced, superior to its predecessors in terms of graphics, sound and software. But with software prices so high, will the dedicated games console make as significant an impact as it did almost a decade ago? Or will it fade away into dusty obscurity like its older relatives?

ONCE UPON A TIME . . .

The first arcade console, *Space War*, was invented in 1972, using hundreds of the cheap 'building block' chips that first appeared in the late sixties. In 1973 the British magazine **Practical Electronics** followed suit with a 300-chip TV Tennis project, boasting two rectangular bats, a square ball and a vertical line for a net. By the mid-seventies, technological advances allowed all these functions to be built into a single chip, and electronic scoring arrived – although scores ran from 0 to 15, rather than the normal sequence, which would not suit a four-bit computer.

More advanced consoles then appeared, featuring four games: tennis, 'football' (like tennis, but with two bats each), 'squash' and 'practice' – a variation of squash that was, significantly, the first game for a single player. Sound effects were added, first through a speaker in the console and then through the TV, with a stunning repertoire of three different pitches of 'beep'.

"We're developing a couple of titles for the consoles, but at this stage it's really only to see if we *can* do it."
Steve Wilcox
Elite

STILL CRUDE

The first computer-based unit appeared in 1978 in the form of the legendary Atari VCS 2600, which was superseded relatively unsuccessfully by the 5200 (complete with four joystick ports) four years later. Meanwhile, cheaper competition arrived courtesy of companies such as Binatone, Radofin, Acetronic, and Grandstand, and even Philips jumped on the bandwagon with their Videopac G7000 console with flat keyboard. Established American toy manufacturers Mattel also launched themselves into the console market with the Intellivision, which received a lukewarm reception from the public, despite much critical acclaim from the press.

GREEN SCREEN

The Vectrex materialised shortly thereafter, providing an unusual alternative in that it was complete system, including a green screen and featuring vector graphics. And Coleco, perhaps better known for highly successful (well, in America at least) Cabbage Patch Kids, failed to make a significant impact with the Colecovision – despite its superlative specifications. The Aquarius, Mattel's second venture into the world of computer based consoles, came and went almost unnoticed, and so did Commodore's

PRESS ANY KEY

Ultimax – a cut-down, cartridge-based version of the Commodore 64.

And around about then the console eruption died down.

Home computers suddenly became fashionable, and cassette-based games took over. Early computer games were as crude as, if not cruder than even the earliest console games, and loading problems were commonplace – but they were considerably cheaper than cartridges. As home computers and home computer software became more and more sophisticated, the dedicated console took a back seat. But then towards the end of 1985, rumours of a new Japanese console filtered across the water . . . And by early 1986 the Nintendo Family Computer found its way into the offices of a few software houses, such as Activision and Firebird, generating much enthusiasm amongst those fortunate enough to have experienced its crisp, colourful graphics and high quality software.

Later in the same year, Ariolasoft announced that they were to distribute the Sega Master System – another new high-quality console of Japanese origin. But the deal with Sega fell through, leaving the console to build up a word-of-mouth reputation much the same as the Nintendo.

There is a lot more room for more detailed gameplay than in a 48K Spectrum or 64K Commodore

THIS IS THE MODERN WORLD

Now, as 1987 draws to a close, both the Nintendo and Sega have finally made it to these shores, albeit in slightly modified forms, courtesy of Mattel and Mastertronic respectively.

So what advantages do the new breed of console have over existing home computers? Of course, console cartridges 'load' instantaneously, unlike cassette-based games and there are very few problems. Magnetic storage media such as cassettes and diskettes are far more susceptible to damage than cartridges and require far more care if they are to last.

The capabilities of both the Sega and Nintendo are marginally superior to the capabilities of earlier consoles of the majority of 8-bit home computers, most noticeably when it comes to the graphics. And with cartridges featuring as much as 256K of memory, in the case of the Sega, there is a lot more room for more detailed gameplay than in a 48K Spectrum or 64K Commodore.

The surplus cartridges were buried in a capsule in the desert!

PIRATES FOILED

Cartridges cannot be copied as easily as cassette or disk based software, which is obviously useful from a software house's point of view as it cuts down piracy. However, there is far more expense and financial risk involved when producing software on cartridge, as tens of thousands of comparitively costly units have to be manufactured to make the investment worthwhile. Nintendo software is territorially coded to prevent cartridges being imported to and exported from different countries, so should a title fail . . . well, the cartridges can't be re-used, and they can't be re-sold elsewhere, so it's basically a lot of effort and a lot more money down the drain.

Rumour has it that Atari found out the hard way – manufacturing several million ET cartridges only to find most of them weren't going to sell, and so the surplus cartridges were buried in a capsule in the desert! It is hardly surprising that cartridge-based software costs twice as much as that on cassette.

The range of home computer software is considerably larger and more varied than that available for any console, but the Nintendo does have an impressive back-catalogue of titles and more importantly, many unusual hardware add-ons to its credit. Hardly surprising considering the enormity of its success in America and Japan, where it effectively 'wiped out' all other formats, including the Sega, and even such established Japanese names as MSX and NEC. This means that, realistically, Nintendo owners have a lot more to look forward to than Sega owners, provided the machine takes off over here.

It's very much a 'Catch 22' situation – the Sega, with its range of more up-to-date arcade conversions, such as *Space Harrier* and *Out Run*, is arguably instantly more impressive than the Nintendo. But in the long-term, it looks like the Nintendo has the edge as far as family entertainment is concerned.

SUPPORT

Third-party software support is ultimately essential if the console market is to thrive – and consoles are to avoid fading into obscurity as they did earlier this decade. However, it is highly unlikely that either the Sega or Nintendo will receive any support from British software houses of this year . . . or ever, if some sources are to be believed.

Telecomsoft's **Paula Byrne**: "We're not moving into console software at the moment – we want to concentrate on producing exceptional software for home computers. But we do intend to convert from consoles to home computer." Gremlin Graphics hope to start writing for the Sega machine in early 1988, although Gremlin Director **Ian Stewart** doesn't think that the UK market will get over-excited about either machine. "If we were looking to produce console software now, we'd be aiming it at Europe rather than the UK," he explains.



Ocean's Atari 8-bit games are compatible with the 65XE console, but as Chairman **David Ward** points out "we don't have any plans to convert them to cartridge format." As for the Sega and Nintendo . . . "We do develop Nintendo software but only for USA and Japan. Whether we bring any of this software over here depends on how many machines have been sold after Christmas. As a publisher we don't need to predict what will happen to the market, we just wait for the boom to happen and then we respond."

Elite are currently developing a couple of titles for the consoles, according to Managing Director **Steve Wilcox**, "but at this stage it's really only to see if we *can* do it. We shan't be announcing anything definite until they are finished."

US Gold certainly won't be producing console software in the forseeable future, not only because the up-front investment required is phenomenal and the cartridges are expensive to produce, but because "you have to go direct to Sega or Nintendo for approval, as they control the distribution of software and are in a position where they can decide what will or won't be written for it," commented Managing Director **Geoff Brown**. He admitted that US Gold have the facilities to develop for the consoles, but feels that "it's in the interest of the UK software industry *not* to support



"As a publisher we don't need to predict what will happen to the market, we just wait for the boom to happen and then we respond."
David Ward
Ocean

SEGA MASTER SYSTEM

Not a penny more but a penny less than £100 will buy you a complete, ready-to-run Master System. The price includes the console, two controllers (similar to those supplied with the Nintendo, except a mini-stick can be screwed into the centre of the direction controller for an extra half inch of leverage and there's no on-board pause and re-start facility) and a transformer (the plug is thoughtfully built-in). The aerial lead included has its own signal-splitting box which allows you to change from television to console input and back again at the flick of a switch – a considerate touch.

Accessories include a Light Phaser set for £44.95 – you get the gun and a combination cartridge featuring three, single-screen shooting games: take part in a simple FBI training scheme in *Marksman Shooting*, indulge in a clay pigeon massacre in *Trap Shooting* or go on a *Safari Hunt* and shoot birds, bears and cute bunnies. For another incarnation of the gun, check out the Laser Tag feature . . . A pair of high-speed liquid crystal shutter 3D Glasses is due for release later this year at £49.95, with a Control Stick (basically a proper joystick) and the Sports Pad (a sort of glorified trackball which is



Ssh. It's the hidden game – easy enough to access when you know how, but can you find it?



Sega's Master System – FANTASY ZONE and the Light Phaser are not supplied



the consoles, as they won't be supporting the industry. Sega and Nintendo are only interested in themselves."

Which prompts one to wonder why the dedicated games console should succeed second time around, when home computer software usurped it in the first place and the new generation of dedicated games machines seems unlikely to receive whole-hearted support from the UK entertainment software industry

"We wouldn't be in the business if we didn't think that the opportunities were there. Our perception of the market is that opportunities exist and we feel the time is right for expansion." said Mattel's Group Product Manager Gordon McFadyen. "The graphics and quality of gameplay have progressed so much since the early 80s – it's now so much more sophisticated for today's more sophisticated consumer. But the Nintendo isn't just a sophisticated games machine, it's more of a general leisure pursuit, offering more wide-spread family entertainment than a home computer. Once we become established, we can then diversify."

And as far as the Sega is concerned, Mastertronic's Group Marketing Manager, Rachel Davies, reckons that "it's going so well because not only is it an easy machine to use, it's supported by some of the best arcade software in the world and it's priced very reasonably for the amount of memory available on the cartridges. And it's exactly what the kids want. We were very confident to start with, but what is surprising is that we keep selling out so quickly. The sales are just incredible. We've only really exposed the UK to about 60% of the software available, Sega have a lot more up their sleeves. Unlike most software houses who may have, say,



five exceptional titles out of a dozen, nearly all the Sega titles are exceptional. There is a worry that it will dry up, but not for a year or so – and by then Sega will have thought of something else."

Consoling thoughts. But as David Ward points out: "Distribution and sales expertise is what will really determine which machine, if any, will succeed – it's Mastertronic against Mattel rather than Nintendo against Sega. My guess is they will be successful. I see them as more of an alternative to a BMX than the home computer."

" . . . it's in the interest of the UK software industry *not* to support the consoles
Geoff Brown
US Gold

PRESS ANY KEY



The West launches a potentially unsuccessful attack in WORLD WAR 3D. Can you save humanity from a lingering death?

used to play specially written versions of the Football and Soccer cartridges) to follow next year.

Software comes in two different forms – card and cartridge – and in three price ranges: 64K cards at £14.95; 128K 'One Mega' cartridges for £19.95 and 256K 'Two Mega' units at £24.95.

CARDS INDEX

Eight cards are due to be released before Christmas, with five available now. Among the first to be served up are *Super Tennis* and a version of *Spy Vs Spy* – they hardly differ from the popular home computer versions.

Count Dracula's haunted house is the setting for the fairly ordinary horizontally scrolling platform action in *Ghost House*, while *Transbot* provides plenty of straightforward blasting across a horizontally scrolling terrain. *My Hero* is a playable beat 'em up in the *Kung Fu Master* mould, whereas *Teddy Boy* (for release in November) is a run-of-the-mill multi-directional scrolling platform game set in a nightmarish toy factory.

October should see the release of *World Soccer*, along with *F-16 Fighter* – another mediocre shoot 'em up, this time with an out-of-the-cockpit view from an F16 fighter as you take on a MIG-25 in a dogfight to the death.

A similar release schedule is planned for the 'One Mega' and 'Two Mega' cartridges . . .

3D ACTION

Two 'One Mega' cartridges for use with the 3D Glasses should also be available prior to Christmas. *World War 3D* is a three-stage arcade-style game in which you defend the East and West from a nuclear attack by shooting down missiles with the Light Phaser, and *Zaxxon 3D* is a version of the Sega arcade classic, this time viewed from behind the ship. However, *World War 3D* also requires the Light Phaser – a combination of peripherals which proves heavy on the pocket.

SEGA 3D GLASSES

Seen here is *World War 3D*, currently the only cartridge available for use in conjunction with Sega's 3D glasses. The glasses themselves plug into the card port on the machine via an adaptor. It's a three-stage, arcade-style game in which you shoot down missiles with the Light Phaser. The screen shakes from side to side as if the vertical hold has gone wrong – until you wear the glasses, when the high-speed liquid crystal shutters 'open' and 'close' in synchronisation with the shimmering screen, thus steadying the image by determining when your left and right eyes see what is on the screen.

The effect is very impressive and in full colour – a lot more effective than the comparitively crude red and green/blue lens system that only produces a reasonable, albeit virtually colourless image. The screen does oscillate slightly, even when the glasses are used, which may irritate those of a sensitive disposition.

However, £49.95 does seem a high price to pay for a limited special effect.

Sega obviously intend to continue releasing conversions of their arcade games, especially with the news of one megabyte and two megabyte cartridges appearing in Japan. So, next year we may well see Master System versions of *Super Hang-On*, *Alien Syndrome*, and (less likely) Sega's incredible new arcade game *After Burner*. It's a pity that there are no hydraulic peripherals in the pipeline!

A pair of high-speed liquid crystal shutter 3D Glasses is due for release later this year

WIN A SEGA MASTER SYSTEM, A LIGHT PHASER AND SIX GAMES

TEN GAMES MACHINE T-SHIRTS ON OFFER!

Study the questions below, then scribble the answers on the back of a postcard or a sealed envelope and send it to SEGA COMPETITION, THE GAMES MACHINE, PO Box 10, Ludlow, Shropshire SY8 1DB – remember to include your name and address but don't bother with a T-shirt size because all our shirts are trendy super-large ones!

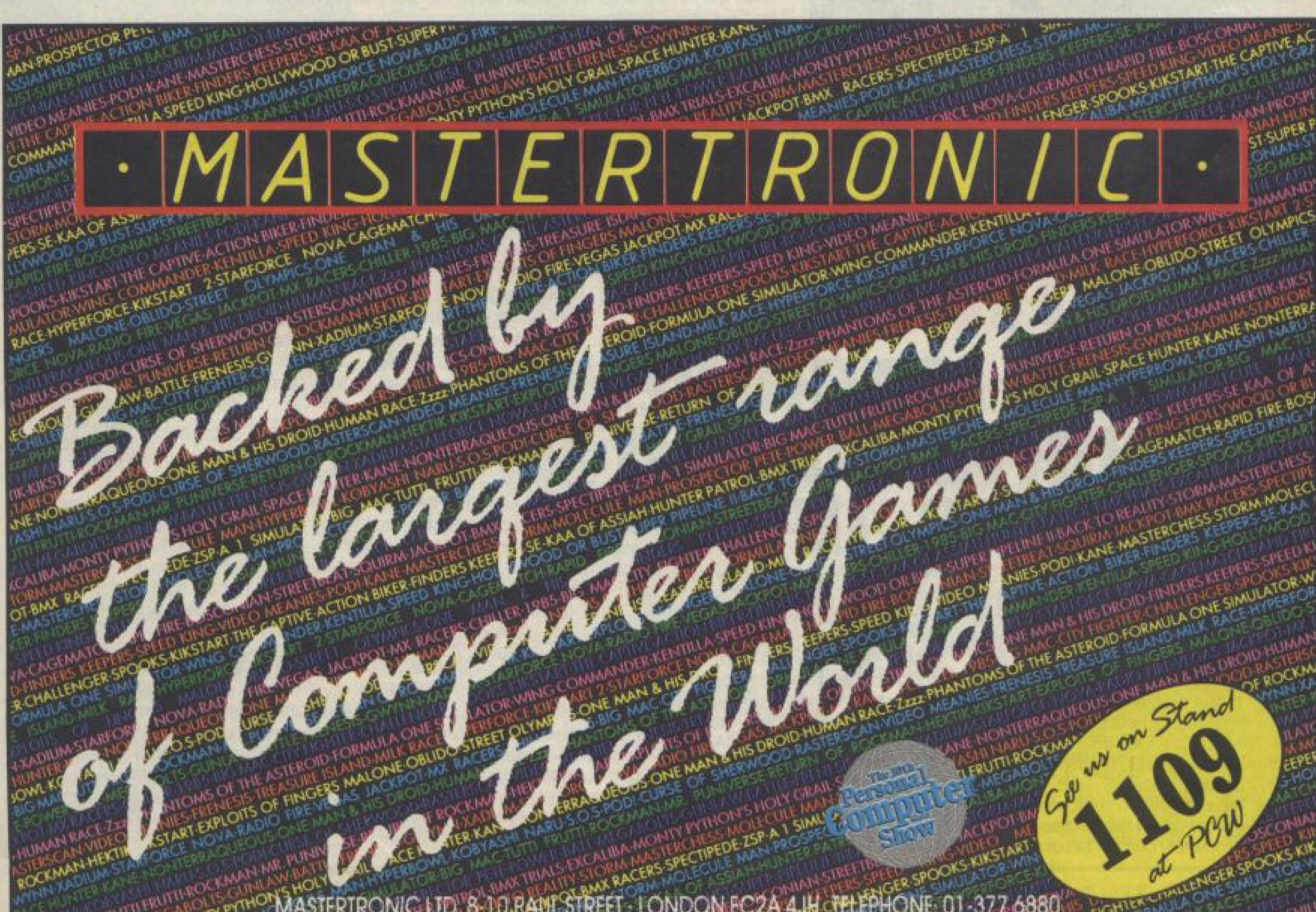
All the entries that arrive before November 19th are going to be collected in a sack, from which a winner and ten runners-up will be drawn after the closing date. First completely correct entry out of the bag wins the Sega Master System kindly supplied by Mastertronic, along with the Light Phaser and the choice of six games from those released by mid-November. We'll throw in a T-shirt as well, so the winner can dress appropriately while playing games. Ten more people are in line to win a limited edition GAMES MACHINE T-shirt, by way of consolation for not coming first.

Our standard competition rules apply – check out the masthead if you are in any doubt – and the answers to all the questions can be found in this issue of THE GAMES MACHINE. Have fun . . .

1) Which software company almost distributed Sega's Master System in 1986?
2) Which Sega title is 'a game with a history'?
3) What is Sega's 'considerate touch'?
4) What is Sega's 'interesting title in the pipeline'?
5) Which UK software house 'hope to start writing for the Sega machine in early 1988'?
6) Which UK software house intends 'to covert from consoles to home computer'?
7) How much would it cost to buy all the Sega cards due to be released before Christmas?
8) Name the 'One Mega' cartridge for the Light Phaser which won't be released until the Spring.
9) Where would you find liquid crystal?
10) How many chips did you need to play tennis 14 years ago?

TIE-BREAKER

How many different software labels does Mastertronic publish or distribute?
Helpful Hint: use your brain – go on, rack it . . .



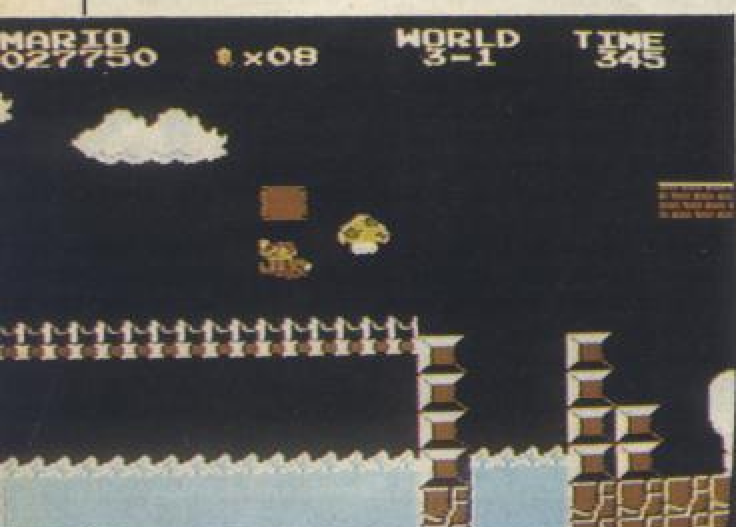
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NINTENDO ENTERTAINMENT SYSTEM

Mattel's basic Nintendo system costs around £100 and consists of the console, necessary leads, two controllers and a copy of *Super Mario Bros* (now almost legendary amongst the cognoscenti who have been playing with Japanese Nintendos or feverishly stuffing money into the arcade machine). The Deluxe Set offers the console, leads and controllers along with a Zapper light gun, a Robotic Operated Buddy (ROB for short) and two compatible cartridges – *Duck Hunt* for the Zapper and *Gyromite* for ROB – all for around £150 or less. Both peripherals are available separately for £19.99 and £44.99 respectively.



The Nintendo Entertainment System – Deluxe Set, complete with Zapper light pistol and Robotic Operated Buddy



As supplied with the basic console . . . it's SUPER MARIO BROS, rumoured to have sold six million copies worldwide

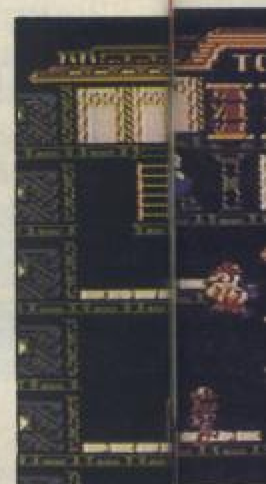
The flat controllers are initially awkward to use, but the rocker switch mechanism proves surprisingly responsive and durable with perseverance. Two fire buttons are provided along with rubbery Select and Start buttons, used to select options or pause and restart – all without letting go of the controller. Should the going prove too depressing, the reset button is found on the front of the console.

Mattel are releasing 27 cartridges this year – 17 of which are available now, with a further ten to follow before and around Christmas. Prices range from £20 to an upper limit of £35 for the more 'specialist' software such as the ROB-compatible cartridges. The initial batch of releases contains games which have been around in Japan for almost two years – and in many cases they appear a little dated.

ARCADE ACTION

Donkey Kong, *Donkey Kong Jr*, *Donkey Kong 3*, and *Popeye* are accurate but unexciting conversions of their ageing arcade counterparts. *Mario Bros* is another arcade conversion, only not so old and a lot more fun than its four arcade stablemates – especially when played with a friend.

There are plenty more arcade-style releases either available or due for



WIN A NINTENDO DELUXE SET PLUS SIX CARTRIDGES

GAMES MACHINE T-SHIRTS FOR 10 RUNNERS-UP

Here's a chance to collect a Nintendo Deluxe Set, courtesy of Mattel. All you have to do is study the questions below, find the answers and jot them on the back of a postcard or a sealed envelope. Once you've added the solution to the tie-breaker pop your entry into the post and make sure it arrives at NINTENDO COMPETITION, THE GAMES MACHINE, PO Box 10, Ludlow, Shropshire SY8 1DB – before November 19th. On the closing date we'll gather up all the entries and the first completely correct set of answers out of the bag wins the Nintendo Deluxe Set and half a dozen cartridges. We haven't got any T-shirts that will fit ROB, but we will pop a human-sized shirt in with the Nintendo so our winner can be the best-dressed Nintendo gamester in the land! Ten more people are to get a limited edition GAMES MACHINE T-shirt, super-large size.

Our standard competition rules apply. Close reading of the consoles feature should give you most of the answers . . .

1) What was Mattel's first venture into the console world?
2) Which Nintendo game is 'almost legendary amongst the cognoscenti'?
3) In *Super Mario Bros*, how do you resume play from the beginning of the world on which you expired?
4) In the offices of which two software houses would you have found the Nintendo Family Computer in early 1986?
5) Name the two Mattel toys which were recently licensed to a new software label.
6) What colour is a Nintendo diskette?
7) Where can you buy one?
8) What are the names of the Mario brothers?
9) Which piece of Nintendo software features typically odd Japanese creatures called Smicks?
10) The Oriental and Occidental Nintendos have an almost identical pair each – but there's an important difference between them. What is it?

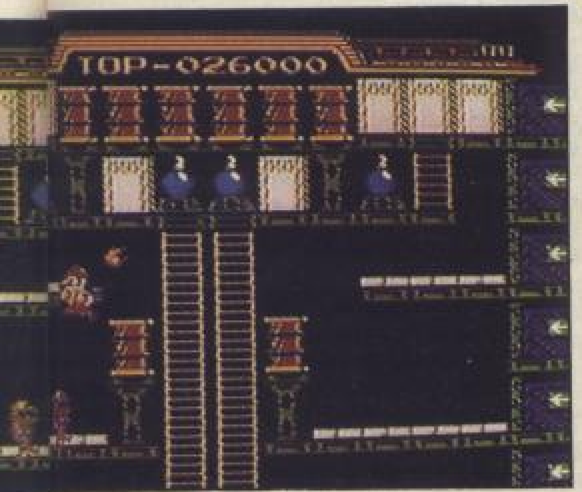
TIE-BREAKER

How many cartridges are Mattel releasing for the Nintendo this year? Know the answer? Good. Add to it the total number of Zapper-compatible cartridges and subtract half the number of cartridges currently available for your Buddy, then multiply the total by the number of screens in the game featuring Mario and incorporating a screen designer. Divide the resulting figure into the (apparent) quantity of *Super Mario Bros* cartridges sold world-wide, then subtract from this the number of buttons on the Nintendo controller added to one yard short of the American sport. Now then – what's the result?

release shortly. *Wrecking Crew* consists of 100 screens of simplistic but addictive and destructive platform action, and features a screen designer facility – complete with LOAD and SAVE options. These commands cannot be used, but it does throw up an interesting possibility for the Nintendo: the facility to LOAD and SAVE games, something which the Sega seems incapable of at present. *Balloon Fight* is a 'cute' but nonetheless playable version of the ageing Williams' arcade game *Joust*, while *Mach Rider* is an unexciting blend of racing and shooting action.

Excitebike involves negotiating obstacle courses on a motorbike, but even the built-in course designer doesn't make it as exciting as title suggests. The vertically scrolling platform game *Ice Climber* offers some short-term fun, as do *Pinball*, *Kung Fu* – a version of the arcade game *Kung*

A sledge-hammer wielding Mario jumps to avoid an advancing fireball in WRECKING CREW



Fu Master – and *Urban Champion*, a beat 'em up with colourful cartoon-like graphics.

SPORTY STUFF

For the sports-minded there are five very playable sports cartridges available – *Tennis*, *Baseball*, *Golf*, *Soccer*, and a conversion of the American football arcade game *10-Yard Fight*. If shooting up the sheriff is what turns you on, one of the three Zapper-compatible cartridges is sure to entertain . . . *Wild Gunman*, *Hogan's Alley* and *Gumshoe* are all variations on the shooting theme and provide some short-term fun – although the novelty of the pistol combined with the simplistic nature of these games suggests that they are more likely to appeal to the younger games-player.

The core of the Nintendo *Play Choice Ten* arcade machine is very similar to that of the UK console, and houses most of the aforementioned titles – for as little as ten pence you can try before you decide to buy a cartridge. The coin-operated system also serves to preview possible releases for the Nintendo console, as it is continually updated with the newer arcade conversions from Japan, such as *Gradius* (*Nemesis*, to all intent and purposes), *Rush 'n' Attack* (basically *Green Beret*), *1942*, and *Trojan* – chances are these and other such titles will appear for Mattel's Nintendo console during the course of 1988.

ROBOT FUN WITH THE NINTENDO

. . . an interesting possibility for the Nintendo: the facility to LOAD and SAVE games, something which the Sega seems incapable of at present



ROB is undoubtedly an unusual accessory – a free-standing, battery powered robotic device that is controlled by light from the TV screen rather than via an interface and cable. Although ROB's range of movements and capabilities is limited, there must be enormous potential for a more mechanically complex robotic device that receives orders from the TV screen. Just imagine – in a few years' time you could be changing TV channels, making the tea and scratching your back via the Nintendo. Well, maybe . . .

Your Robotic Operated Buddy comes out to play bringing his own toys – two gyroscopes, a gyroscope accelerator, and plastic extensions for his arms. ROB is a very simple robot, unable to move around the room and restricted to raising and lowering his torso on a central pivot, turning his shoulders through 270° and clasping his arms together in pincer-like motions to seize and release objects. Nevertheless, he's cute and has sufficient variety of movement to impress young children.

TV TRANSMISSION

Data is sent to ROB via the television screen – provided his head is pointing in the right direction. The screen flashes to show that information has been transmitted and ROB responds accordingly with either an up, down, left or right movement.

The compatible software available isn't too demanding, and is pitched at about the right difficulty level for children of ages around six and up – although there's plenty to challenge even an accomplished arcade-player. *Gyromite* (supplied with the Deluxe package) is perhaps the most difficult of the two 'games' – you have to get a dozy professor from one side of the scrolling play area to the other, while collecting sticks of dynamite that can be used to blow up the typically odd Japanese creatures (Smicks) patrolling the platforms. The player uses one of the controllers to move the professor, while the second controller is placed in a special receptacle attached to ROB's base. Pressing one fire button enables the player to transmit information which determines ROB's movements.

Considerable accuracy is required when controlling ROB as he has to be made to pick up and drop the gyroscopes into the spinner, then when they are spinning fast enough, drop them onto one or both of the two levers – which in turn press the fire buttons on his controller. In this way ROB can be made to play the game with you, moving columns obstructing the professor's progress.

The second piece of ROB-compatible software is *Stack Up*. Priced at around £35, the package includes a special pair of foam-backed pincers, five trays which clip into ROB's base and five different coloured stackable blocks. Oh, and of course a cartridge. There are four different variations on the game, and as with *Gyromite*, a Test option is included which allows the user to see if ROB is in correct working order. Each game is simple and involves little more than stacking the five coloured blocks to match a pattern shown on screen.

As is the case with all Nintendo packages, the instruction manual provided is informative, but perhaps a little too confusing for a young child to get to grips with – parental guidance is advisable.

LIGHT PISTOLS

Light guns such as the ill-fated Stack light rifle never really made much of a lasting impression with home computer owners – hardly surprising, as there's not a lot you can do with them, and compatible software invariably lacks variety and depth. Arguably, the limitations imposed by light pistols could only be down to a lack of imagination on the part of the programming teams involved. But it's still somewhat surprising that Nintendo, Sega and Atari have decided to produce light pistols for their respective consoles – especially when all existing compatible software provides little more than short-term fun.

On the Nintendo, *Duck Hunt* (supplied with the *Zapper* pistol), *Wild Gunman*, *Hogan's Alley* and *Gumshoe* prove initially entertaining but fail to captivate for long due to their simplicity and repetitive nature. The same is true of Sega's combination cartridge (supplied with the Light Phaser) and their *Shooting Gallery*, while Atari's *Blast 'Em* is less interesting still.

Sega do have an interesting title in the pipeline though . . . *Zillion*, based on the Sega toy of the same name distributed in the UK by Matchbox (for more details, check out the Laser Tag feature in this issue), involves controlling three characters in an attempt to rescue two friends held captive on Planet X. This certainly sounds as though it could be different – and so it should be, as there *is* a lot more that can be done with a light gun system . . .

However, until someone releases compatible software of any substance, there probably isn't much lasting appeal to owning a light pistol – unless taking pot shots at the television screen *really* turns you on.



PRESS ANY KEY

Thanks to Shintaro Kanaoya for his invaluable help in compiling the Japanese story . . .

NINTENDO FAMILY COMPUTER



The Nintendo Family Computer, complete with disk drive, 3D spectacles and a selection of disk and cartridge-based software

The forerunner to the Nintendo Entertainment System has been on sale in Japan for around two years, and has now become a household object in millions of Japanese homes. The software has changed quite dramatically since the machine's release – from straightforward arcade conversions to advanced arcade adventures with role-playing overtones, the most successful of which are *Dragon Quest* and *Dragon Quest II*. The absence of a keyboard is compensated for in such games by a window-driven system, used to interact with the software.

The Nintendo is big business in Japan, and the range of products available is vast – from such bizarre hardware additions as touch-sensitive mats to beautifully produced best-selling tips booklets. People spend a pretty Yen in making sure that they're on top of the latest developments: nowadays it's deemed most uncool if you don't know *all* the cheats in *Super Mario Bros* and can't complete it without losing a life.

Apart from the obvious physical difference, the core of this system is almost identical to that of its Occidental counterpart – although the cartridges are sadly incompatible.

LOUD CHEATS

The Japanese Nintendo controllers are a little different too – one of them features a microphone. While in essence the ability to hear yourself 'Shoutalonga Mario' through the TV speaker doesn't sound particularly useful, it is in fact very much an essential feature – used to activate some cheat modes! In one vertically scrolling shoot 'em up, for instance, shouting into the microphone while shooting on the third level results in a special bonus being awarded.



Take a dash of arcade adventure, throw in a generous helping of RPG elements and you get DRAGON'S QUEST II

As the Nintendo doesn't have keyboard facilities, POKEs cannot be entered to modify games. To compensate, hidden cheat modes abound – in *Super Mario Bros* for example, there's a 'continue play' feature: holding down button 'A' and then pressing 'START' allows you to resume play from the beginning of the world on which you expired. This 'cheat' also works on the version supplied with the UK console.

Then there's the disk drive, featuring a built-in modem to enable Japanese Nintendo owners to buy software via the telephone. The drive is connected to the cartridge port via a special interface and takes non-standard Nintendo diskettes. The yellow plastic case that protects the magnetic disc is roughly two-and-a-half inches across and makes the diskette look more like a Fischer Price teething board than a resilient storage medium! But the system works well, and the drive is fast and reliable.

ATTRACT MODE

There's an additional attract mode for drive-owners . . . turning on the disk drive and leaving it for 20 seconds or so incites Mario to leap on the screen – he is then chased by Luigi, who is in turn chased by Mario. The two of them then romp around the screen – just for a laugh and a giggle!

The Family Trainer is one of the more unusual Nintendo peripherals available in Japan. It is essentially a touch sensitive mat, used in conjunction with 'sports' software that allows you work up a healthy sweat by actively participating in 100m Hurdles and a Marathon. Aerobics are on offer if you prefer to avoid competitive exercise. Further details should be found in the next issue of THE GAMES MACHINE.

On the software front, plenty of arcade conversions are on the shelves in Japan, including *Xevious*, *Argus*, *Commando* and *Ghosts 'n' Goblins* – with an interesting level select cheat, activated by pressing the fire buttons and moving the controller. *Trojan*, *Terra Cresta*, *Green Beret*, *Wonderboy*, *Renegade*, *Solomon's Key*, *Rygar*, and *Nemesis* (better known as *Gradius*) also number amongst the arcade classics available. Incidentally, *Gradius II* is due to follow shortly.

ORIGINALITY

There are also many highly playable, 'original' arcade-style games available. Hudson, the programming team behind *Stop The Express* and the Nintendo version of *Star Force*, have produced an impressive sequel called *Star Soldier*. A vertically scrolling

shoot 'em up set in space, it's packed with blasting, extra weaponry, hidden bonuses and large 'mother ships' to destroy at the end of each level.

Super Mario Bros II stars on one side of a disk, partnered by *Golf* on the other (a slightly odd juxtaposition . . .). Although similar in many ways to its predecessor, *SMB II* has been redesigned and revamped to make it an interesting game in its own right. The graphics have been tweaked, the scenery is arranged differently, and there are a few extra hazards thrown in for good measure. To add additional variety to the Mario Remix, the option of controlling either Mario or Luigi has been added – Mario doesn't jump as high as Luigi, but then he doesn't skid as much.

Super Mario Bros II didn't seem to access the disk drive when we played it, so it's probably fair to assume that it could appear over here in cartridge form before long.

NO NAME GAME

Another disk-based Japanese game has a name that is untranslatable. This *Game With No English Name* appears in 3D and could best be described as a cross between *Super Mario Bros* and *Space Harrier*. It can be played with or without the aid of a pair of spectacles supplied in the package. Pressing a button, the display changes and slipping on the designer shades with one red and one blue lens allows you to view the proceedings in more realistic 3D – an effect not too dissimilar to that seen in early 3D films like 'The Creature From The Black Lagoon'. Gimmicks aside, the gameplay is a competent and addictive blend of styles. Speeding across the first-person-perspective landscape, avoiding creatures, leaping chasms, and collecting weapons and special features is both compulsive and rewarding.

A few computer games have also been successfully converted to the Nintendo – Activision's *Murder On The Mississippi* and Epyx's *Winter Games* are two recent examples. Cartoon characters are continually being licensed for use in games . . . *Hokuto No Ken* – roughly translated – 'Fist From The North', and *Hokuto No Ken II* are two beat 'em ups based on a famous Japanese comic character, who also appears in a seemingly interminable television series – shown at peak viewing time and apparently the Japanese equivalent of Eastenders. The comic and television series, and indeed the games, are gratuitously violent, revolving around the exploits of four brothers. The youngest brother, Kenshiro, plays the lead role and is the hero of the games, running around killing people with his deadly fingers (including his brothers, in the end).

Incidentally, *Hokuto No Ken* contains an interesting cheat mode – interesting in that it's apparently activated by screaming 'Dadadadadada' (Kenshiro's catchphrase) into the microphone on one of the controllers! Told you they came in handy . . .

This is all very well, but when can you expect to see any of this marvellous Japanese software? Well, it all depends on the success of the Nintendo this Christmas . . .

ATARI 2600

Recently redesigned and relaunched for a penny under £50, the granddaddy of the consoles is the cheapest of the four available, but it's also the most archaic – almost a decade old. This re-packaged old-trouper that has many of its relatives lurking in those dusty attics now looks stylish and comes complete with necessary leads, a joystick and a cartridge.

When compared with the Nintendo or Sega, however, the Atari 2600 seems over-priced and antiquated – even though it is half the price of its rivals. Atari claim that 'Over 20 million units are already in people's homes and millions more continue to be sold each year.' But with other, vastly superior consoles available for an extra £50 (or less), the popularity of the Atari 2600 may well decline quite rapidly. Still, it does have a large software base – albeit an outdated one.

'Over 20 million units are already in people's homes and millions more continue to be sold each year.'

Old consoles never die – they just get revamped and relaunched . . . Atari's new-look 2600



SOFTWARE SCENE

Software comes in cartridge form only and is now split into three price groups – £12.99, £9.99 and £6.99. The first group currently features three of the most up-to-date of the available titles: *Pacman Jr*, *Midnight Magic*, and *Solaris* – though they could hardly be classed as straight from the arcades. The mid-price range consists mainly of ageing arcade conversions such as *Stargate*, *Pole Position*, *Crystal Castles*, *Millipede*, *Ms Pacman*, *Dig Dug*, *Battlezone*, *Galaxians*, *Joust*, *Moon Patrol*, *Jungle Hunt*, *Centipede*, *Pacman*, and *Q-Bert*, plus two arcade-style sports games – *Realsport Soccer* and *Champion Soccer*. The cheapest range includes even older arcade conversions such as *Space Invaders*, *Missile Command*, *Defender*, *Asteroids*, *Phoenix*, *Berzerk*, and *Vanguard*, along with four sports cartridges – *Tennis*, *Basketball*, *Baseball*, and *Volleyball* – and two simplistic arcade-style games: *Skydiver* and *Air Sea Battle*.

Also available for £6.99 are four titles which only work with paddles – *Warlords*, *Demons To Diamonds*, *Nightdriver* and *Super Breakout*.

Better still, if you happen to own or are considering buying the 2600, check out the larger toy stores such as Toys 'R' Us for cheap, 'remaindered' cartridges.

ATARI 65XE

Towards the end of 1984 Atari hit America with its third and arguably most powerful console – the 7800 system. This was the machine for which *Ballblazer* and *Rescue On Fractalus* were originally written. Rumour had it that Atari would release its new baby over here sometime this year, but any such plans were dropped in favour of the 65XE, mainly because of the large software base already available for the Atari 400/800 home computer that forms the core of this stylish grey-cased new package. The 65XE has been tastefully repackaged, without the keyboard but with the archaic favourite *Missile Command* built-in. A joystick and cartridge are also supplied as part of the £79.99 deal. Ironically, a keyboard can be added – at a cost of £59.99 with a joystick and Data Recorder thrown in.

Other peripherals include a Light Gun for £29.99 (including software), the Data Recorder on its own for £29.99, and a Touch Tablet for £49.99. A compatible disk drive sets you back £179.99, and for the connoisseur there are printers for £189.99 and £199.99. Standard Atari joysticks and Super Controllers can be bought for £4.99 and £7.99 respectively, with a pair of paddles costing £9.99.

All three controllers are compatible with most home computers, and at the price represent worthy investments in their own right. Given that a brand-new Atari 800 complete with disk drive could be bought in High Street last Christmas for less than the cost of the 65XE drive alone today, this masterpiece of repackaging could be held by some to be less of a wise investment – especially as 800's which effectively offer the same facilities aren't too difficult to pick up on the secondhand market.

Another new-look Atari console – the 65XE, seen here with keyboard, cassette deck, light pistol and joystick



JAPAN has a word for the u



BASEBALL It's the most realistic baseball game outside of a ballpark!



HOGAN'S ALLEY Use your Zapper light gun to shoot the gangsters.

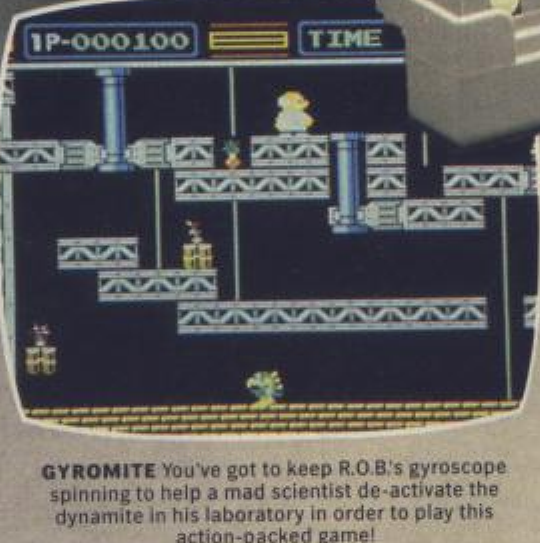


CLU CLU LAND The evil Sea Urchin has hidden the gold in an underground mystery maze.

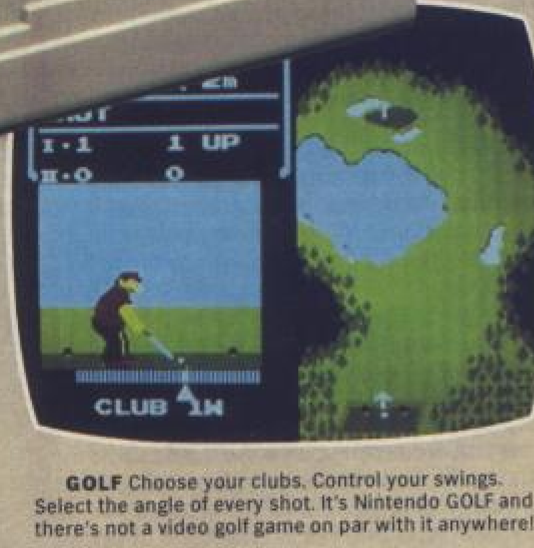




DUCK HUNT There's a duck in the air! You've only got three shots to bag this duck. And if you miss, even your dog laughs at you in this fast-action Zapper Gun game.



GYROMITE You've got to keep R.O.B.'s gyroscope spinning to help a mad scientist de-activate the dynamite in his laboratory in order to play this action-packed game!



GOLF Choose your clubs. Control your swings. Select the angle of every shot. It's Nintendo GOLF and there's not a video golf game on par with it anywhere!

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Already there are 27 Nintendo Game Paks available in the UK and more are being added to the software library all the time. But there's even more to Nintendo than the best games you've ever seen...

Nintendo Entertainment System

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The Zapper Gun

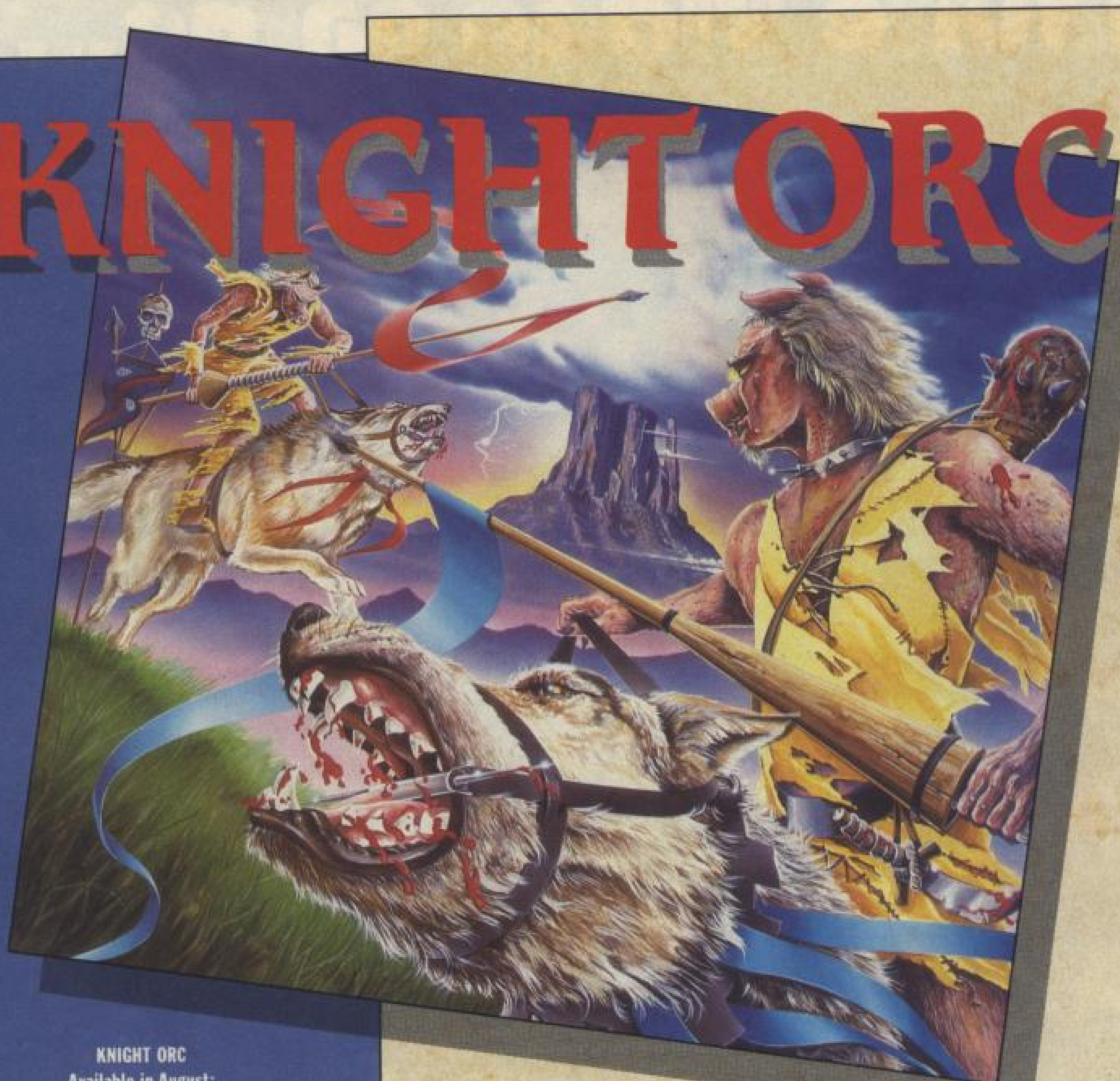
Never before has there been a video gun of this calibre. The astonishing light sensitive Zapper Gun lets you shoot moving targets with pinpoint accuracy from up to 16 feet! If you think you're a sharp shooter the Zapper Gun will test your skill to the full.

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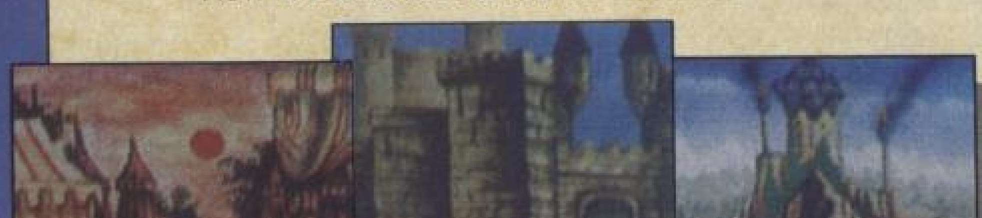
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Screen shots taken from the Amiga version.



GOING SOLO

Role-playing veteran John Woods casts his eye over the world of single-handed role-playing . . .

In a role-playing game the Game Master is creator of the world, the final arbiter of life and death for the players' characters. He or she tells them what is happening and decides the success or failure of the actions the players try to carry out. This gives role-playing games a unique potential for variety – what can happen is limited only by the Game Master's imagination. But what if you can't find a Game Master? Many role-playing enthusiasts aren't able to meet as a group very often, or simply don't know many other players. The weeks or months that can pass between games lead to endless frustration – so to satisfy the cravings of such unfortunate souls, the earliest solo adventures were created.

A solo adventure book does away with the need for a Game Master altogether. The player selects the course of action to follow at each stage by choosing between options. Once a choice has been made, the player is directed by the book to a paragraph that gives the outcome. In combat, the book gives statistics on the opponent being confronted and the fight is resolved by the player.

FUNNY LOOKS

Clearly this can never have the same 'feel' as real role-playing, with its infinite scope for alternative happenings and the drama of the interaction between characters created by the players and those created by the referee. Nevertheless, a well-constructed solo adventure can have just as much atmosphere and excitement – and you can play on a train without getting funny looks. Try that with a seven-player game of *Dungeons And Dragons* !

The first solos to come onto the market were for existing role-playing game systems, and required the player to have copies of the relevant rulebooks in order to play. Some of these solos were extremely good. **Alan LaVergne**'s three *SoloQuest* books for the *RuneQuest* game were a great favourite of mine, requiring a fair amount of skill and good use of your character's abilities. Also worthy of mention is **Flying Buffalo**'s game *Tunnels and Trolls*, which had a very large number of solos in the classic monster-slaying, dungeon-bashing tradition. Many of these are still in print, and still popular. Solos are also available for the more recent games such as *Call of Cthulu*. Excellent though many of these are, they have never enjoyed an enormous following simply because it is necessary to own and be familiar with the rulebooks of the corresponding game. Often these rulebooks are complex. Solo gaming only came properly to life with the advent of Fighting Fantasy.

A solo adventure book does away with the need for a Game Master altogether

WORKSHOP

Fighting Fantasy was created by **Steve Jackson** and **Ian Livingstone**, who also gave the world **Games Workshop**. The first book *Warlock of Firetop Mountain* was published in 1982 and became phenomenally successful, selling in the hundreds of thousands and creating a new publishing concept almost overnight. Jackson and Livingstone had produced a solo gaming system in which the rules were much simpler than those of other role-playing games – essentially their rules consist of a simple combat system that occupies a mere handful of pages. Both rules and adventure fit nicely into a standard-sized, standard price paperback and all the player need add is dice and paper and pencil before the adventure can start.

Warlock appealed to players too young to have taken an interest in role-playing before its release, and went down well with older gamers looking for an inexpensive change from their usual game.

The style of *Warlock* is very straightforward in comparison with more modern gamebooks. The rules system is extremely simple, with the player's abilities specified by just three dice rolls – Skill, Stamina and Luck – and is complemented by a very elementary combat system. There are no spells or special skills available for a character's use but the simplicity of the system developed for *Warlock* is one of the strengths of the book, and the host of subsequent books in the Fighting Fantasy series have used it in an essentially unchanged form.

DETRACTION

A more serious detraction perhaps, is the a lack of background and atmosphere in *Warlock* – the reader/player is told nothing about the history of the character or the land in which the adventure is set. Mysteriously, you are aware of the existence of the wizard's dungeon that is about to be entered and of various improbable rumours about it: 'To reach the inner chambers you have to cross a river,' you are told, 'The ferry service is regular.' There's no real motivation for the quest apart from personal greed – what had the Warlock ever done to drive you to loot his lair?

But the most serious flaw for me is that the outcome of the adventure depends very heavily on luck. At several points a single wrong guess or unlucky dice roll spells doom for your character, and success often comes in an equally arbitrary fashion. There is little feeling of player skill having any influence on the outcome.

In spite of these limitations people played and enjoyed *Warlock* in vast numbers when it was released, and suddenly it seemed that everyone was writing solo gamebooks. As well as many follow-ups from Jackson and Livingstone themselves, dozens of other authors have to capture a slice of the booming market, with mixed degrees of success. Most tried to improve upon the system and atmosphere of *Warlock*. About three years ago the first books of what are now successful series were published, but there around then there was also a flurry of releases that were comparative flops.

GRAILQUEST

JH Brennan's *Grailquest* books were amongst those that perhaps deserved to do better. They include a clever combat system that allows the player to use weapons and armour in a sensible way – to knock out the enemy instead of killing it – and a large range of magic spells is available to help the player through the adventure. Magically summoned from your own time to King Arthur's mystic realm of Avalon, you take the form of a farmer's son called Pip and are sent on missions by the wizard Merlin. (Clearly the Knights of the Table Round were otherwise engaged.) The two books, *Castle of Darkness* and *Den of Dragons* are very atmospherically written and in places have a pleasantly light-hearted feel – when you appear in Merlin's crystal cave, he explains: 'I don't do much entertaining here now. I brought Atilla the Hun here once, but he broke the furniture.'

There is also a lot of skill involved the play of Brennan's books, particularly in choosing when to cast the spells available – they can only be used once. Sadly the series did not prove popular with many solo players, who perhaps preferred the hectic hack-and-slay action of Fighting Fantasy to the more leisurely and lengthy descriptive sections of Grailquest.

PRESS ANY KEY

LONE WOLF

The one new series to emerge in 1984 that gave solo gamebook fans exactly what they wanted was **Joe Dever** and **Gary Chalk**'s *Lone Wolf.* As in Grailquest you take the part of a particular character, but this time instead of a humble farmer's son you are Lone Wolf himself, last survivor of the Kai (an order of warrior monks in the fantasy world of Magnamund) and the only hope for the fair land of Sommerlund.

The first book, *Flight from the Dark*, opens as Lone Wolf escapes the destruction of the monastery, witnessing the slaughter of his comrades by the foul hordes of the Darklords of the West. Without the Kai monks to lead her armies, Sommerlund lies helpless before her dark enemies of old! Lone Wolf has to be guided to the capital, Holmguard, to warn the king of his country's peril. This is a gamebook with a compelling and detailed fantasy background.

A characteristic of the Lone Wolf books is that you may choose the skills that Lone Wolf gains as a result of his Kai training. These range from mundane abilities such as hunting through to weapon-mastery and psionic powers. A shrewd choice of skills often enables Lone Wolf to avoid danger or to despatch the Forces of Dark more readily, but possession of a particular skill is never absolutely essential in order to complete the adventure. The combat system of the series is quite ingenious, including considerably more variety than that of Fighting Fantasy while being just as easy to use.

Attempts at computerisation have never been particularly popular

SWORD-PLAY

The second Lone Wolf book, *Fire on the Water*, takes the story further. After warning the king, the legendary Sommersword has to be recovered – a magical weapon that is the only hope if Sommerlund is to be saved from the advancing armies of the Darklords. The concluding sections of this quest are particularly satisfying as, after a dangerous but successful quest, you unleash the power of the Sommersword on your enemies.

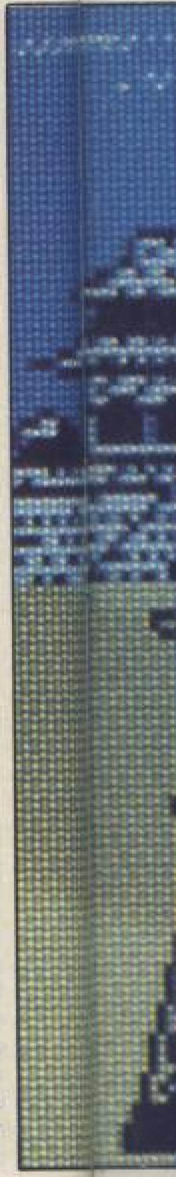
To date there have been a further eight books in the series, with at least two more to come, offering the opportunity to complete a uniquely wide-ranging solo epic. If each book is played in turn, you have the chance to improve Lone Wolf's skills and obtain useful items that can be carried forward to further adventures. It is possible to play any book by itself, but the feel of a book is added to if it is played as part of an on-going saga – one of the factors that has made Lone Wolf so successful.

THE TIGER WAY

Another successful series to use the approach of linked adventures is *Way of the Tiger*, by **Mark Smith** and **Jamie Thomson**. In this series you play Avenger, a Ninja warrior on the fantasy world of Orb, in his quest to avenge the death of his foster-father Naijishi. The great appeal of these books is the detailed unarmed combat system. The rules have illustrations of the great variety of kicks, punches and throws available, and the player selects the best move to use against each opponent. As in Lone Wolf, you also have a choice of skills in which you may be trained – ranging from acrobatics and climbing to the use of poison darts and the garotte.

The Way of the Tiger books were so successful that **Gremlin Graphics** obtained the title for a computer game, though this was based purely on the combat and did not include any adventure-type elements. There have been attempts to convert solo gamebooks directly for computer play – the first Lone Wolf books were available for the Spectrum – but these attempts at computerisation have never been particularly popular, being less complex than computer adventures proper and considerably more expensive than the gamebooks themselves.

There have been many attempts to break totally new ground with novel gamebook ideas. In particular there have been a few two player books, where each person has a book and players fight each other in a duel to the death. Most unusual of these was **Joe Dever**'s *Combat Heroes*, which replaced text in the main body of the game with illustrations of the view seen through your character's eyes.



HOW A SOLO ADVENTURE WORKS

If you have never played or seen a solo adventure book, the idea of a solo adventure probably sounds somewhat mysterious – in reality the concept is very straightforward.

The book starts with a background section to prepare you for the adventure to come. The amount of detail and atmosphere included varies considerably from one book to another, but might typically include some description of the world in which the adventure is set and the past history of the character whose role you are to take. Of course, the nature of the adventure itself is also given, and this can vary from exploring of a dangerous dungeon to defeating a dragon that has been terrorising a town, or even to embarking on a secret mission in a futuristic galaxy – each book is different.

The next section of the book deals with the rules for resolving combat and for determining the specific abilities of your character. Setting up a character's attributes involves rolling dice to obtain scores representing skill in fighting, stamina and so on. Special skills such as hunting or the ability to cast particular magic spells may also be available for selection. Finally, equipment for the quest needs to be chosen from the items available, and choice is limited both by what your character can carry and what he or she can afford. With these preliminaries out of the way, and armed with pencil, dice and iron determination, you are ready to launch into the adventure itself.

NUMBERS GAME

The text of the rest of the book is divided up into a multitude of numbered sections. Each one consists of a description of an incident that may happen during the course of the adventure, or of a room or piece of countryside through which your character might pass, including details of any other people or monsters that are present at the location. At the end of each numbered section you are presented with the options currently open to the character being played, and the option you select determines which numbered section to go to next. For instance, exploring a cave system you might reach a paragraph reading:

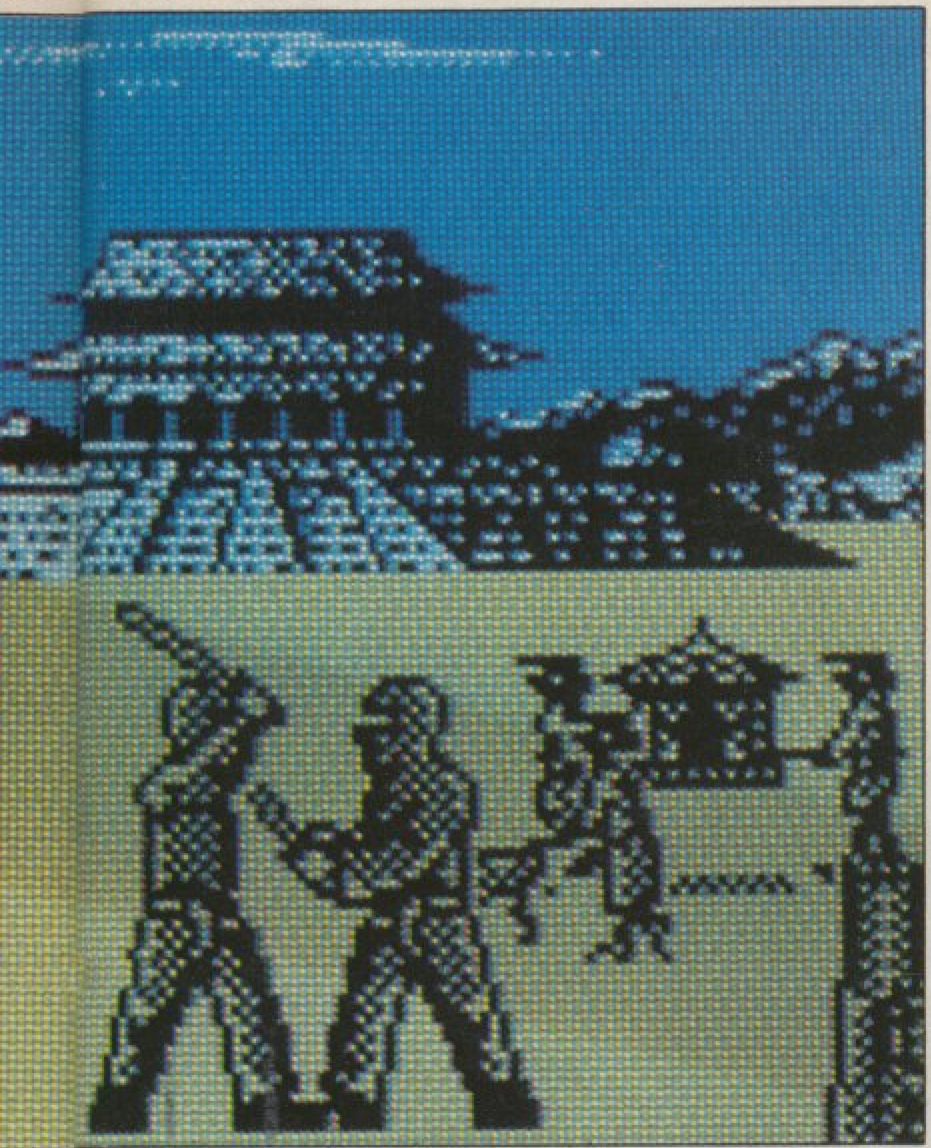
'You are at a T-junction. To the east a wide set of stone steps leads down into darkness, and to the west is a large corridor strewn with dirt and animal bones. Will you go East (13), West (198) or return the way you came, North (52)? '

The life of your character and the success of the quest depends on the choice made, but how to decide on the best route? Perhaps you have a rough map or have gained information from a friendly creature encountered earlier that tells you that a fearsome ogre lives to the west, or that the treasure you are seeking lies at the bottom of some wide stone steps. Perhaps you have no such knowledge and have to rely on instinct or blind luck. The right choice takes you one step nearer to success, while the wrong one may well land you with a hungry monster to defeat before play can be continued.

When enemies are encountered, battle ensues. The method of combat resolution varies from book to book, but typically dice are rolled in turn for your character and then for your opponent to determine who injures whom and how seriously. This continues until one of the combatants is dead. If the enemy bites the dust, you carry on with the adventure – injured perhaps, but maybe with useful loot from the body of the vanquished foe. If it is your character who dies, it's Game Over, Player One: back to the first paragraph with a new character.

PROBLEMS

As well as offering simple exploration and fighting, game books usually confront the player with tests of skill and logic. Authors have devised many ways of including devilish problems for the player to solve before a character can progress, ranging from easy riddles to quite complex number puzzles. These have to be overcome, along with all the perils presented by hostile creatures/humans/robots as well as all sorts of treachery and traps before the quest can be completed. Often several hapless characters are guided to their deaths before you succeed. But with luck, skill and determination you should eventually emerge, battle-scarred, weary, but triumphant, to the rewards of the final paragraph.



Two player gamebooks seem to have found only a restricted popularity but the arrival of Smith and Thompson's two player gamebook, *Blood Valley*, on computer courtesy of **Imagineering** may change this state of affairs when it is published by Gremlin . . .

Whilst the early boom in solo gamebooks seems to have subsided, and the number of new series appearing is less than it was, the books that started it all continue to go from strength to strength. Fighting Fantasy now has around thirty titles available, including several science fiction adventures alongside the more traditional fantasy. The books are still amongst the simplest to use and the style of writing is very straightforward, but the atmosphere and background is much improved over that of *Warlock*, and some of the plots are highly ingenious. My own favourite amongst the later books is Steve Jackson's *Creature of Havoc*, in which your quest is to find out your true identity and escape from the bestial form in which you have been trapped! The relatively high degree of luck in the books may still limit their appeal to more sophisticated gamers, though.

The rush of new titles may have slowed somewhat from the early days, but a glance at the shelves packed with gamebooks in most bookshops confirms that solo gaming is still very much alive and full of stamina points. Today's books have evolved a long way from the earliest solo adventures, but their message is still the same: there are places in the world where an adventurer must go alone, and you can have a lot of fun taking them there!

Armed with pencil, dice and iron determination, you are ready to launch into the adventure itself

THE DUNGEONS OF TORGAR

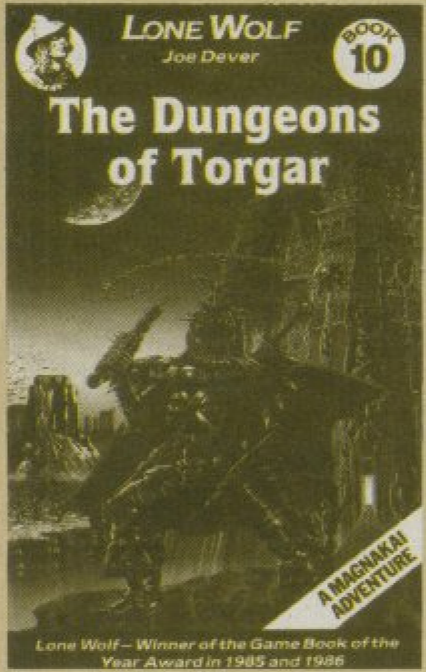
LONE WOLF 10

Publisher: Beaver, 1987
Author: Joe Dever
Price: £2.25

The Lone Wolf books are by far the most successful linked series of gamebooks to date, winning the *Game Book of the Year* award in both 1985 and 1986. In this latest release, Lone Wolf, last Kai Master of Sommerlund, has to be taken into the city-fortress of Torgar where the Darklord Gnaag lurks. The aim is to recover the mystical Lorestones from Gnaag's evil clutches.

The books continues the Lone Wolf series, and you are allowed to carry forward any possessions and skills that Lone Wolf has acquired through playing earlier books. However, it is quite possible to play the book by itself – a little more luck is all that is called for. Of course, the combat and skill system is unchanged from the earlier titles: skills available to help Lone Wolf range from animal control to invisibility, while a choice of ten weapons is offered at the start – careful selection speeds progress.

he combat system is one of the strengths of this series. A Combat Table is used to determine damage suffered by Lone Wolf and his opponent, and gives a wide variety of possible results. A weak enemy can often be dispatched in a single blow, but a powerful monster can do the same to Lone Wolf! Instead of dice, a random number table is used to generate digits from 0-9. I personally find this rather a nuisance, and would recommend any Lone Wolf fan to buy a ten-sided die from a games store. All in all the balance the rules achieve between simplicity and sophistication is about right, giving scope for some player skill without slowing down combat.



The adventure itself is in Joe Dever's usual style, with more description than in Fighting Fantasy titles but with nearly as fast a pace of action. The 350 sections are illustrated with twenty line drawing at dramatically appropriate moments, and the atmosphere of the text is compelling. The emphasis in play is more on combat than on puzzle-solving, but there is still some scope for player skill. The mission is quite challenging and leads to an unusual final conflict that promises much for the next book, *Prisoners of Time*.

In conclusion, this is obviously a must for all established Lone Wolf fans. It will also work well as a one-off, though to fully appreciate the atmosphere it would be better to start with one of the earlier books. Fans of riddles and puzzles will be disappointed, but if you're after a good yarn with plenty of fighting, Lone Wolf's your man!



In association with ACTIVISION UK, we

INFOCOM



Win a copy of every Infocom game ever released for your computer

For the avid adventurer there are only a handful of software companies that can really satiate the need for a world of text input. One such organisation is the American-based **Infocom**, who could be regarded as the Lords of adventure creativity. For some years now their Interactive Fiction has been the cause of much burning of the midnight oil, many a furrowed brow and joyous shouts of '"%$*£$ %*£ ! '

Infocom was formed in the days of the TRS 80, without much idea of where its own particular niche within the software world would be. They began with a variety of different activities including such wonders as products related to artificial intelligence for the world of business. While pursuing this somewhat serious avenue they came across the famous 'original adventure' – yes, that's it – the one by Will Crowther and Don Woods confusingly referred to as *Colossal Adventure* and *Cave Adventure*.

An instant interest was sparked, and because they thought *Colossal* had limitations, Dave Lebling and Co decided to write a similar style of game, but improve on it . . . and so *Zork* was born. It took nearly a year to create and was actually intended to be a one-off, stand-alone title. However, as more ideas, locations, puzzles and so on were added, the original concept had to be split, hence the *Zork Trilogy*.

Middle-Earth Dungeons And Dragons type scenarios were soon expanded upon with the release of *Starcross* (inspired by Arthur C Clarke's *Rendevous with Rama* and various Niven novels) and *Suspect*, a story of murder, mystery and suspense.

The system on which Infocom wrote their games was designed in such a way as to enable easy transportation from one make of computer to another, although in the early days of the Zorkmid, to coin a phrase, only the TRS 80 and Apple were real candidates.

Since the time of the underground empire, Infocom has released an adventure every six months or so (although we do seem to have had a flood of them this year, courtesy of **Activision**). Now they have a substantial library of titles under their belt.

, we offer over £1,000 of games in the

PETITION



These disk-based marvels include such titles as *Suspended*, *Planetfall*, *Cutthroats*, *Deadline*, *Spellbreaker*, *Ballyhoo*, *Trinity* . . . and many more. In all, over 30 journies into the unreal are currently on offer.

Now for the really juicy bits. Activision (UK) Ltd are offering you the chance of winning the entire range of interactive Infocom games available for your machine. Just puzzle over the questions we've set and when you think you've got them all right, write the answers on the back of a postcard or sealed envelope and shove it in the post to us at INFOCOMPETITION, THE GAMES MACHINE, PO Box 10, Ludlow, Shropshire SY8 1DB – don't forget to add the type of computer you have, so we know what to send you if your entry is the first one out of the draw. The full range of Infocom games is available for the Atari ST, Commodore 128 and Amiga, PC and compatibles and the Macintosh. Only four of Infocom's games are too large for the Commodore 64, and if you own a disk-based Amstrad, there's a fair selection . . .

Owners of Spectrums, Dragon 32's, Orics, Elans and other computers including the Cray Supercomputer and compatibles won't derive too much benefit from this competition. As Winnie once said, you can't please all of the people all of the time.

Entries should arrive no later than 19th November, and just in case you don't win outright there's a chance for ten runners-up to collect a copy of Infocom's latest *Nord And Bert Could Not Make Head Nor Tale Of It*.

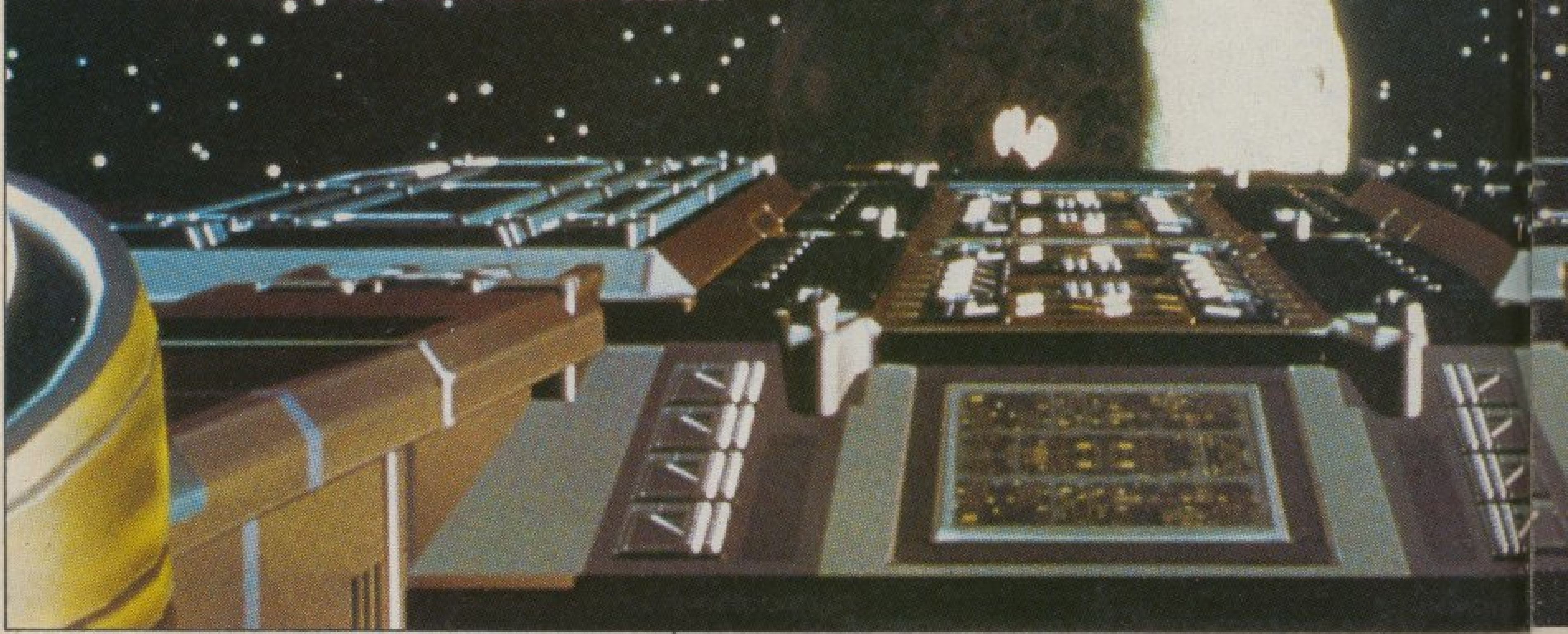
Our standard competition rules apply – check out the masthead if you are in any doubt.

1) Infocom describe their games as what?
2) Which Infocom adventure was based on a Douglas Adams book/radioplay?
3) Name the first Infocom adventure.
4) Which title inspired by several science fiction books was the forerunner to *Planetfall*?
5) Who wrote the so-called 'original' text adventure?
6) What is the currency used in *The Zork Trilogy*?

10 Runner-up prizes of NORD AND BERT, Infocom's latest release . . .

COMPUTERS IN V

Computers keep cropping up in the movies, as Martyn Lester and Martin Coxhead discover in their 'Videography' of the microchip. Next issue, they take look at robotic film stars.



For the greater part of the 1940s and 1950s, the computer was to be seen in science-fiction movies as a wall of flashing lights which produced a wee strip of punched tape at the end. Peering at this, the bespectacled scientist would then deduce the precise origins of the aliens which were threatening Balham. Things have changed, both in reality and in the movies. Many of the films which have computers as stars or in supporting roles are currently available for hire from your local video library.

The computer has most often been portrayed as malevolent in the cinema

To some extent when the movie industry presented computers as banks of flashing lights it was reflecting the state of the technology thirty years or more ago. Computers did take up entire rooms. But, it also showed the ignorance of a lot of film makers . . .

Now the computer is a totally commonplace item in many productions. Griffin Dunne, lead in Martin Scorcese's *After Hours* (Warner Home Video) is a word processing clerk, a fact barely touched upon because of its very ordinariness. A female clerk is the heroine of *Jumping Jack Flash* (coming from CBS/Fox Video), where Whoopi Goldberg finds messages coming up on her VDU from a secret agent trapped in East Berlin. Codenamed Jumping Jack Flash, the spy uses her terminal to get messages out of Germany.

It is the family PC which solves the communication problem in the Walt Disney production *A Hero In The Family* (Disney Premiere), in which an astronaut and a chimp have their minds swapped after an alien encounter and are trapped in each other's bodies. Of course this now common film plot device moves into the realm of pure silliness when a PC is used via a radio interface by a magical motorbike in *The Dirt Bike Kid* (Medusa) in order to show the young hero the solution to his problem. Technical purists may object but it's still an enjoyable film, as is *Thrillkill* (CBS/Fox Video) where the computer is used to store the location of a large amount of stolen money.

COMMONPLACE

Hell, the technology is now so common even the cops have it, as Sylvester Stallone's hi-tech kit in his apartment in the dreadful *Cobra* (Warner Home Video) shows.

But to prove that they can still save the world, it's a computer which identifies the sinister origins of *The Lamp* (Braveworld), though a little too late to stop the rampaging Genie within from escaping . . . But computers are not only seen as benevolent.

A device, controlled by a PC, which can make Las Vegas fruit machines drop the jackpot leads to its inventor's murder by criminals in the thriller *Deadly Impact* (Entertainment In Video) – certainly not a benevolent computer if you are a casino owner.

Given the fact that many companies now employ hackers to test their systems for fraud susceptibility, it is a little curious that the subject is hardly touched on in movies. Possibly the only example is the excellent *Prime Risk* (Medusa), which deals with the 'bottom end' technology of cashpoint machines.

Hell, the technology is now so common even the cops have it

The female member of our pair of youthful heroes is a computer whizz turned down for a bank job. She invents an in-car system for picking up and listening to the radio emissions made by cash dispensers as they are used by rich citizens, and the musical tones recorded allow the production of 'forged' magnetic card strips, and also give away the PIN code for getting cash out. Luckily the heroine has got perfect pitch!

Things develop, however, when the duo's receivers pick up signals from a gang plotting to send down every single computer in the country, thus collapsing the entire financial system.

MILITARY SYSTEMS

If the boy/girl team of hackers being called in by the Pentagon to save a system sounds familiar, then you obviously remember *WarGames* (Warner Home Video), where hackers enter the Central Defence Network and bring the world to the brink of World War III as the Generals believe that the simulations being played on their screens are an actual Russian first strike and prepare for a response. Just fanciful scaremongering? Well, the original director Martin Brest was fired from the production when he refused to compromise on a happy ending. He wanted the Big Bang.

Computers for world defence also appeared in the thought-provoking *Colossus – The Forbin Project* (RCA/



The Last Starfighter

Columbia) in 1969, where the supercomputer in charge of the defence of the Western world collaborates with its Russian counterpart, thus totally controlling the actions and policies of all the countries of the world.

The end of the world via computer also came in Stanley Kubrick's savagely comic *Dr Strangelove* (RCA/Columbia), in which the Russian response to a single, armed B-52 bomber entering its airspace is triggered by an unstoppable computer program.

The computer has most often been portrayed as malevolent in the cinema – an extension of the fear of computers running out of control rather than the simple technofear of those unable to use them.

MEMORABLE

Possibly the best-known example is the HAL 9000 in Kubrick's *2001 – A Space Odyssey* (MGM/UA Video), programmed to complete its mission to one of the moons of Jupiter no matter what the cost to the crew. Voiced by Canadian DJ Douglas Rain, the 'character' of HAL is totally memorable – especially the scene in which Keir Dullea disables HAL by removing memory panels. HAL's slow regression back to its earlier programming is an unsettling parallel to lobotomy.

In Peter Hyams' sequel, *2010* (MGM/UA Video), scientist John Lithgow fits a 'trip' system that cuts in should HAL become unmanageable again. Amazing coincidence that it is, Arthur C Clarke, author of the original story, has always denied that it was in any way intentional that the name HAL is one letter back in each position from IBM.

The theme of a supercomputer with an objective that must be completed at all costs was copied in **Ridley Scott**'s *Alien* (CBS/Fox Video), where the crew discover that the recovery of the Alien was always intended when they enter the memory banks of the computer, Mother.

The idea of endowing a computer with a personality escalated to its 'logical' conclusion in **Donald Cammell**'s *Demon Seed* (MGM/UA Video), in which the Proteus IV – voice courtesy of Robert Vaughn – rapes scientist's wife Julie Christie and incubates a child: the ultimate human/computer interface. Some critics raised queries as to the contents of the author's ashtrays at the time he was writing the screenplay . . .

Scientists having conversations with computers is commonplace: arguing with a computer-controlled nuclear bomb and using metaphysics to persuade it that it doesn't exist and therefore can't explode was the climax of **John Carpenter**'s *Dark Star* (Iver Film). Difficult to summarise, but hilarious to watch. Descartes and Jung never had problems like that.

Technofear mixed with sheer squeamishness made *The Terminal Man* (Warner Home Video) hard to watch, for although the story (taken from Michael Crichton's novel about a violent man being linked to a computer via a brain implant) was sound, Mike Hodges' direction was lax. Equally bad was *Welcome To Blood City* (Thorn EMI) in which Keir Dullea – a long way from *2001* – found himself, through a mental computer link, in the Blood City of the title – a Western-style town where points are scored according to the number of people you kill. Lousy.

BRAINPOWER

The Billion Dollar Brain (Warner Home Video) of Michael Caine's spy thriller was a supercomputer used by a Texan oil billionaire to plan the overthrow of the Communist government in Russia. A computer caught on and informed Jeff Goldblum of his genetic fusing with an insect in **David Cronenberg**'s remake of *The Fly* (coming from CBS/Fox Video).

The Australian production *Crosstalk* (Precision Video) offered us a conspiracy with a computer at the heart, while the only horror film to use computers in a major way was the energetic *Evilspeak* (Apex) in which a young boy, bullied at a military academy, uses the school facilities to conjure up a warlock for revenge. A great climax is set in the school chapel, with demonic visitations and a horde of possessed pigs!

Michael Crichton's *Looker* (Warner Home Video), got its timing wrong on technology. The 'shocking' idea of the plot, that totally convincing images of people could be digitally recreated by computer (and never ageing, therefore the original people modelled could be murdered) was made obsolete by real technology four years later with 1985's *The Last Starfighter* (Heron; also available on the low-priced Channel 5 label from such outlets as Woolworths). *The Last Starfighter* is engaging science-fiction story about a young lad called to help

The only horror film to use computers in a major way was the energetic *Evilspeak*

The idea of a computer in every home must have seemed very far-fetched to TV viewers in the early 1960's

an alien race in a cosmic war as a result of his prowess at training simulators that have been hidden on Earth in the guise of video games. The space scenes were all digitally created by the Cray X-MP Supercomputer by Digital Scene Simulation Inc. What Crichton has portrayed as sinister a few years before, was now being used to make good entertainment.

Interestingly, Crichton's concept of holding people digitally in store was used for the creation of video DJ Max Headroom in the pilot film, available on Virgin Video.

It's not any malevolent intention which endangers the lives of the kids in *Space Camp* (CBS/Fox Video – coming in March 1988). Rather, it is the lack of capacity for objective judgement on the part of both a robot and the mission control computer that causes a launchpad malfunction, forcing a Space Shuttle full of cadets to launch and go into orbit. It almost goes without saying that without the on-board technology the crew would be stuffed – after all, computers are now no more than the basic nuts and bolts of space travel.

VIDEO GAMES

The massive growth of video games in the mid-Seventies forced Walt Disney to go hi-tech with *Tron* (Walt Disney Home Video), which used digital simulation for the first time in a dramatic tale. Computer genius Jeff Bridges actually enters the heart of a computer and finds an entire world within, complete with 'games' going on inside. Visually entertaining, it was nevertheless unsatisfying. The release of the arcade game was absolutely simultaneous in the UK – so carefully organised that patrons could play *Tron* machines in the cinema foyer.

A more sinister side of the humble video arcade game came in the *Bishop Of Battle* sequence of the anthology horror film *Nightmares* (CIC Video), in which Emilio Estevez finds himself becoming obsessed with the Bishop Of Battle game. He breaks into the arcade late at night to play, and finds out why no one has ever completed all the screens – the Bishop himself gets very annoyed.

Raunchy teen comedy met with a video arcade setting for the crude *Joysticks* (Entertainment In Video), and scarcely an episode of Gerry Anderson's *Terrahawks* (many available on Channel 5) went by without seeing Tiger Ninestein zapping away on his video game.

BENEVOLENT BITS

Benevolence, if only after a fashion, can be seen in some movies with a computer adjunct. One of the earliest was the 1970 Disney production *The Computer Wore Tennis Shoes* (Walt Disney Home Video), in which a young Kurt Russell found himself with amazing physical and mental powers after receiving a massive electric shock while mending a mainframe computer. Computers were put online to communicate with the unusually tuneful aliens at the Wurlitzer at the climax of Spielberg's *Close Encounters Of The Third Kind* (RCA/Columbia).

Silly but highly watchable is the Ita-

PRESS ANY KEY

lian production *Warrior Of The Lost World* (Thorn EMI), with action actor Robert Ginty as a futuristic mercenary aboard a rocket-powered motorbike bristling with weaponry and equipped with an on-board computer with a smart line in flip remarks. Further silliness is encountered by Jeffrey Byron who relies on his wrist-computer link with Excalibr-8 in *Ragewar* (Entertainment In Video), where a computer technician is taken into a dreamworld to face challenges by a bored demon who fancies a bit of a change. Don't look for logical plausibility.

Electric Dreams (Virgin Video) was the world's first computer love story, where Edgar, the hero's computer, falls for the pretty cello player upstairs. Charming though the idea was, it wasn't enough to get a cinema audience to part with money to see it, although it was a hit on video. Obviously the home computer theme appealed more as home entertainment. *The Final Programme* (Thorn EMI) was just that, a computer plan for the birth of a new messiah to save the world from the crappy state it's in. Jon Finch, as Jerry Cornelius, and Jenny Runacre starred in this adaption of the Michael Moorcock novel, stunningly directed by Robert Fuest. The movie rightly achieved a huge cult status, being a savagely funny mix of satire and future vision.

PORTABLES

Although not yet completely possible, the *Blake's 7* (BBC Video) idea of toting around a little perspex Orac to help you out of sticky situations or come up with a good escape plan is appealing. Nowadays, it seems less ridiculous to modern audiences – the idea of a computer in every home must have seemed very far-fetched to TV viewers in the early 1960's as they watched the Dan Dare-ish technology the BBC made the centrepiece of Dr Who's TARDIS.

The familiar helmet-guided weapons systems as seen in *Blue Thunder* (RCA/Columbia) and *Airwolf* (CIC Video), increase to an entire plane with a fully thought-controlled weapon array in Clint Eastwood's badly bungled *Firefox* (Warner Home Video). Clint has to steal a MiG 31 fighter that interfaces directly with the pilot's mind – unfortunately the climax of the film is blown by Eastwood having to utter 'Think in Russian, think in Russian' to inform the audience as to why he can't get the weapons system to work against the pursuing fighter. Again, research into thought control is under way in both the US and USSR.

Rather better thought-out was **Douglas Trumbull**'s *Brainstorm* (MGM/UA Video) in which technology has advanced to the stage where thoughts, memories and physical sensations can be recorded and replayed, making the recipient experience them again, or 'live out' someone else's experiences. The crux comes with a scientist who dies while on the machine, and the experience is recorded. Does Christopher Walken have the guts to replay the tape? The concepts are scientifically solid, if far beyond the state-of-the-art, and form part of another field that is under serious investigation. The idea was similar to the Gerry Anderson series of the early 1970's *Joe 90* (Channel 5), in which a young lad was 'programmed' with skills for various missions – for instance mountaineering or scuba diving – via a machine called The Big RAT, which stands for something we've forgotten! Surprisingly, the series wasn't a success.

NO-BYTE BOND

For all their hi-tech gadgetry, the James Bond movies have rarely dabbled with computer technology, although *For Your Eyes Only* (Warner Home Video), one of the best of the Roger Moore run, features both a computerised coding machine which Bond has to retrieve, and a very silly sequence where quartermaster Q demonstrates a computerised photo-fit machine. The resulting display is so cartoony as to make the scene almost laughable.

But for every film where the technology is plausible and the computers believeable, there are many more in which it's all rather loopy.

We're all fairly happy with PCs, and we know their capabilities. But could even the best of us know that when you hook one up to a Barbie doll and generally fiddle about you can create Kelly Le Brock? The two young jerks in *Weird Science* (CIC Video) manage it. And even if the Austin Maestro can tell you to do up your seat belt, it's doubtful whether anything on four wheels will be able to tell you that the bad guys are chasing you or you have a dinner date, as does the motor in *Knight Rider* (CIC Video).

Surprisingly, for someone who has laid down so many excellent laws of physics and fiction, Isaac Asimov goes utterly barmy too – with *Fantastic Voyage* (CBS/Fox Video), in which an entire submarine and crew are computer-miniaturised and injected into the bloodstream of a defecting scientist to remove bullet fragments from his brain! Daft as hell.

HI-TECH NORMS

Computers and hi-tech are now becoming the norm in movies. Terrorist thriller *CAT Squad* (Braveworld), directed by William Friedkin, has an anti-terrorist squad on the trail of killers after Star Wars technology, while the cause of villany in *A View To A Kill* (Warner Home Video) is the now humble silicon chip – the baddie wants to destroy Silicon Valley by flooding and earthquake, thus making him the only supplier. Will James Bond save the world and free enterprise? Yes.

Not every film version of technology is forward-looking in a positive manner. **Terry Gilliam**'s staggering *Brazil* (Thorn EMI) offers a bleak view of the future, where society has seemingly broken down but is kept going by string and chewing gum rubbish. Ducts snake everywhere and computers are stripped Olivetti keyboards with a cathode tube somehow attached by Blu-Tack and the odd rubber band.

. . . computers are stripped Olivetti keyboards with a cathode tube somehow attached by Blu-Tack and the odd rubber band

In this system where computer and information technology is kept barely up and running in the way one associates with the Soviet Union and tractors, or India and trains, all it takes is a bug in the system – literally, as a cockroach falls into a computer printer – to instigate a surreal chain of events. Thus a man called Buttle is seized by a Government snatch squad rather than a man called Tuttle.

In querying the supposed infallibility of the technocratic system, harmless pen-pusher Sam Lowry (Jonathan Bryce) is catapulted to the status of a public enemy and finds that the human end of the system can be ruthlessly efficient, as seen in Monty Python's Michael Palin as a Government-employed torturer.

Not calculated to make viewers love their Amstrad PCW word-processors . . .

COMPUTER DIRECTORS

Computers are no longer simply the subjects of films: these days they help make them – and not just in the accounts department.

Games players will know the level to which graphics have risen, but no arcade game can yet match the versatility of *Tron* or *The Last Starfighter* or the amazing flying owl title sequence supplied by Digital Scene Simulation Inc for Jim Henson's *Labyrinth* (Nelson Entertainment). Anybody who watches the TV will have seen intricate trailers and credit sequences for programmes created on Quantel and Paintbox computers.

Computers, then, can obviously be a boon to film producers and directors but, as in any field, the sheer availability of technology and the capacity of a computer to perform a function will sometimes lead to the initiation of a totally unnecessary task.

It is beyond doubt that computers can now be asked to 'fill in' the missing colours in black and white films. This 'colourisation' process has vociferous critics in the film world who regard it as a bastardisation of their work.

Agreed, many films made in black and white were not made in monochrome at the wish of the director. Colour tests were made on Laurel and Hardy at quite an early stage, but the colour film stock available at the time could not register the subtle powder blue of Stan Laurel's eyes, thus making him look like a zombie!

. . . colour film stock available at the time could not register the subtle powder blue of Stan Laurel's eyes

Similarly **George Romero**'s cult horror movie *Night Of The Living Dead* is in black and white simply because the production company could not afford colour stock.

The only colourised movies available on video at the moment in the UK are **Frank Capra**'s movie *It's A Wonderful Life* (The Video Collection), and the original 1961 **Roger Gorman** version of *The Little Shop Of Horrors* (Vestron), but some 60 movies are available in the States (including Romero's *Night Of The Living Dead*), and work is now believed to be underway on colourising *Casablanca*.

Those who promote the colourisation process claim that it aids the sales of a film to video, cable and television – and the effect is certainly worth checking out for yourself.

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ST ABSORBTION

Over the past nine months or so **Firebird**'s widely acclaimed release *The Sentinel* has enjoyed marked success on the BBC, Commodore 64, Spectrum and Amstrad – being hailed by many as one of the most innovative pieces of software ever written. After months of involved programming and study of the 68000, **Geoff Crammond** (author of all versions except the one for the Spectrum) has converted his masterpiece to the Atari ST.

Elegantly repackaged and priced at £19.95, this is undoubtedly the best version yet of this wholly original game concept. Travelling across the abstract landscapes created on the ST, play is noticeably smoother and faster than before. A useful new feature is also included – pressing 'HELP' calls up a plan view of the landscape, relevant to the position of the Synthoid, so you can plan your attack. Playability is also improved by being able to use the mouse to look around, absorb objects and transfer, in conjunction with key-presses to create trees, boulders and Synthoids.

Geoff is currently working on an Amiga version which should be ready by Christmas, and is toying with a follow-up . . . provisionally (and imaginatively) entitled *The Sentinel II*. As far as we are concerned this game is in a class of its own and defies ratings . . .

PC CINEMA

Having made its mark on the Amiga and become one of the best-selling Commodore 64 disk-based games ever released, **Cinemaware**'s *Defender Of The Crown* is now available for the PC range in the UK, thanks to **Mirrorsoft**. The absence of an impressive colour scheme doesn't detract from the playability, which is limited but nonetheless entertaining. The PC *Defender* is every bit as good at the original in terms of creating the illusion of participating in a film, but isn't quite as playable as it is on the Commodore 64. No doubt other versions of *Sinbad* are on their way too – we've booked a chat with the people behind Cinemaware and should be able to report fully next issue.

OVERALL 78%

WEAK WARRIORS

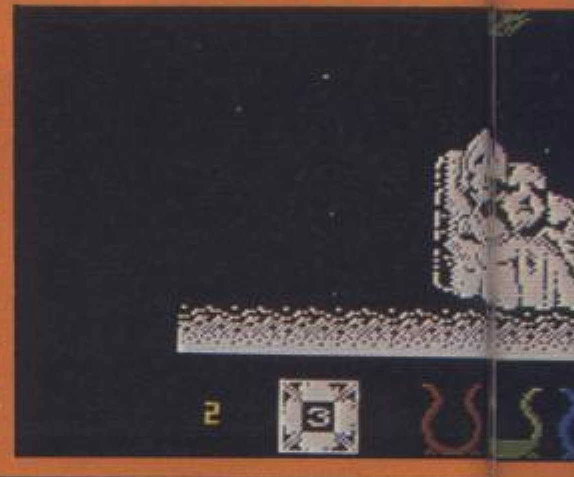
The Samurai Trilogy – featuring Karate, Kendo and Samurai – wasn't received too heartily when **Gremlin Graphics** introduced it on the Commodore 64 a few months ago. It's a deceptively simple fighting game which boasts a rather complicated 'tactical' front end where the abilities of your combatant can be honed. While the 64's graphics were elegant, the feel of this multi-load offering wasn't quite right, and the menu sequences where you set up the attributes of your hero detracted from rather than added to the playability. The Spectrum version has recently been completed and might fare better on a machine which isn't so well catered for in terms of combat games – it's unlikely to convert anyone to the genre, however.

OVERALL 44%

PSYCHEDELIC W

Spectrum and Amstrad owners can now sample some of the delights experienced for three months by Commodore 64 owners . . . **Sensible Software**'s bizarre horizontally scrolling shoot 'em up *Wizball* has finally been converted to the Z80 machines and is available from **Ocean**. Taking control of the Wiz and his cat in their protective spherical shells, the objective is to collect the colour stolen by Zark and put it back into the Wizworld's eight monochrome levels.

Sadly, both new versions lack a lot of the humour and playability of the original – including the bonus stage and the ability to 'hide' in the landscape. The Amstrad version's scen-



INTO THE ATARI ST NEST



Having received much critical acclaim on the Amstrad, Spectrum and Commodore 64, *Into The Eagle's Nest* has now been converted to the Atari ST – the first 16-bit release from **Interceptor**'s 'premium quality arcade label' Pandora. While it remains graphically similar to its 8-bit counterparts, this version of the highly playable *Gauntlet* variant also features sampled sound effects, a sampled title tune, and two different castles, with four slightly different missions to complete in each. The whole package costs £19.95 and comes recommended.

OVERALL 81%

AMIGACHOPPER

Almost two and a half years after its appearance on the Commodore 64, **Cosmi** have converted their helicopter simulator *Super Huey* to the Amiga, due for release by **US Gold** at £19.99. Sadly, the only remotely impressive aspect of this version is the sampled title music – and even that's occasionally out of tune. There are very few ground features to convince the pilot that he's in flight, and none of the Amiga's vastly superior capabilities seem to have been put to any use. A poor interpretation of a competent 64 game.

OVERALL 48%

ELITISM MOVES ON

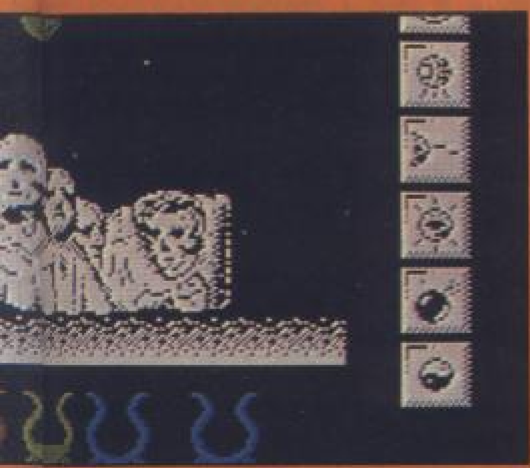
Three years ago it started . . . Written for the BBC and published on the Acornsoft label, this property was acquired by **Firebird** and converted to the Commodore 64, Spectrum and Amstrad. Having notched up well over 500,000 sales worldwide, **David Braben** and **Ian Bell**'s classic trading and blasting game has now been converted to the PC by *Starstrike* authors **Realtime Software**. What is it? *Elite*, of course . . .

The latest version plays much the same as its predecessors, but there is one important difference – instead of using vector graphics to display the proceedings, everything is presented in solid, shaded 3D. Rumours are circulating that a similar version is in the pipeline for the Atari ST – more details when we have them.

As for Braben and Bell . . . apparently David Braben is currently working on a block-busting new game called *Zarch*, which might be followed by *Elite II* – both for Acorn's new mega-machine the Archimedes. Ian Bell on the other hand has become immersed in the noble art of Tai-Chi and may not return to the programming scene for some time . . . if at all.

OVERALL 88%

C WIZARDRY



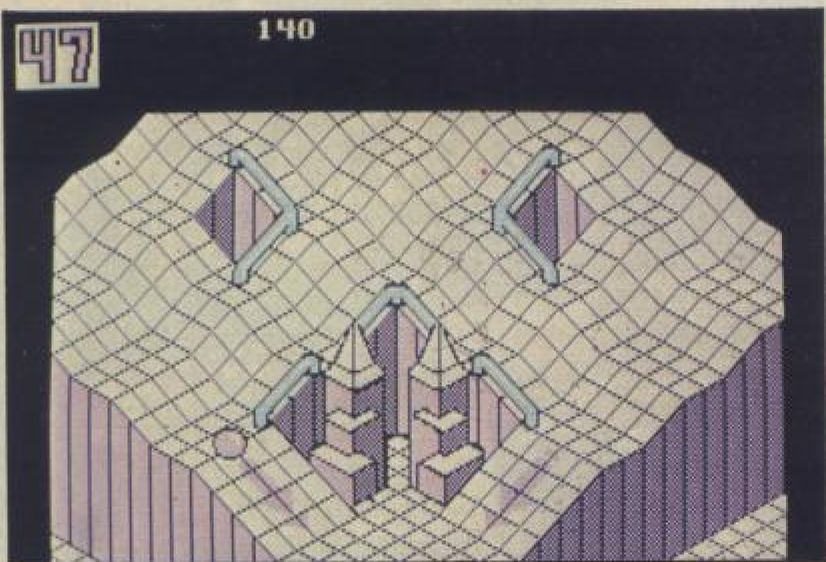
ery doesn't scroll – the screen flicks irritatingly from one part of the landscape to the next – and it isn't overly playable. Amstrad owners who have seen the Commodore original are likely to be disappointed, whether they spend £8.85 (cassette) or £14.95 (disk). On the other hand, the Spectrum version provides sufficient action for £7.95 on cassette. Incidentally, look out for an Amiga version early next year.

AMSTRAD
OVERALL 65%
SPECTRUM
OVERALL 80%

NO HITTER FROM ACCOLADE

Accolade's highly acclaimed baseball simulation *Hardball! is now available for the Amiga, courtesy of* ***US Gold****. Surprisingly, it's not much of an improvement over its 8-bit counterparts, despite the inclusion of sampled speech at opportune moments. If you're an Amiga-owning baseball fan, try Earl Weaver Baseball* from **Electronic Arts**or **Activision**'s slightly older *Championship Baseball* before committing the contents of your wallet – both are just as playable for roughly the same price: £24.99.

OVERALL 69%



PC GAINS ITS MARBLES

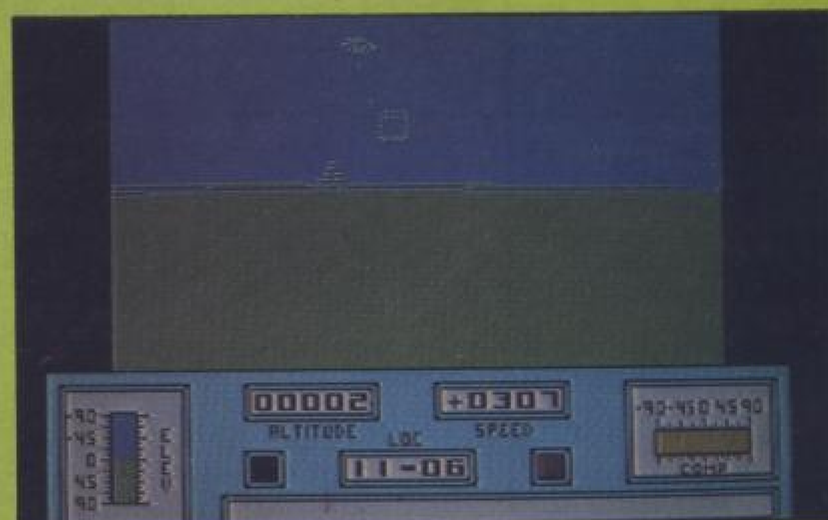
Commodore 64 and Amiga conversions of the cult classic arcade game *Marble Madness* received a mixed reception when released by **Ariolasoft** towards the end of last year. More recently though, **Electronic Arts** (who converted the game from Atari's coin-op) set up shop in their own right on this side of the Atlantic, having decided that the time was right to unleash their current range of American titles onto the British public. Among their first batch of releases is another version of *Marble Madness*, this time for the IBM PC and compatibles at £24.95 – and it's arguably the most playable version yet.

OVERALL 79%

Electronic Arts have also converted their rather unexciting *Battlezone* clone *Arcticfox* from the Amiga original to the PC and compatibles – and it's soon going to appear on the Spectrum and Amstrad. The PC version retails for £24.95.

OVERALL 58%

SPECTRUM SOLDIER OF FORTUNE



Novagen's timeless classic *Mercenary* hits the Spectrum, nearly two years after **Paul Woakes** completed work on the original Atari 800 version. Paul went on to write *Mercenary* for the Commodore 64 and Atari ST, but wasn't responsible for the Spectrum conversion – this monumental task was undertaken by **Speedlock** programmer **David Aubrey-Jones**, who also translated it to the Amstrad. The Spectrum offers what is potentially the best 8-bit version available – it's not particularly smooth, but it is very fast and all the more playable for the increase in speed. What makes *Mercenary* such an innovative game is that the player is essentially free to do what he likes on the planet of Targ, with almost endless interaction possible.

Mercenary II, or *Damocles* as it is now known, is also in the pipeline and should appear on the Commodore 64 and Atari 8-bit around the beginning of next year. Also due to appear from Novagen in the not too distant future is an ST-only game entitled *Backlash*. We have more details tucked away elsewhere in this issue . . .

OVERALL 96%

CHANGING FORTUNES FOR CDS

Towards the end of last year **CDS Software Ltd** took a brave step in combining a computer game with a boardgame, releasing a somewhat unusual package for virtually all 8-bit machines. It costs a lot to include boardgame paraphenalia with a program, and the investment for the football management game *Brian Clough's Football Fortunes* was much greater than for an average product. Not surprisingly, CDS planned to produce versions for just about every computer they could think of, and the game that's genuinely 'fun for all the family' has now arrived for the Amiga, Atari ST and PC range at £24.95

Football Fortunes is an enjoyable and sociable board game for up to five players (even if they're not all football fanatics) – the computer takes a back seat, providing no more than a coordinating role, while the cut 'n' thrust action takes place on the table. The board, counters and cards appear in these latest conversions, which take advantage of the capabilities of the more complex computers by adding more 'bells and whistles' to the standard software which accompanied the earlier versions. Good fun, so long as you can play with friends.

OVERALL 84%

XE-LLENT DRUID

Atari's 8-bit machines have been somewhat starved of decent software recently – so it's pleasing to see that a year after its release on the Commodore 64, an excellent conversion of **Firebird**'s *Druid* is now available, priced at £9.95 on cassette and £14.95 on disk. This multi-directional scrolling maze game has superficial similarities to *Gauntlet*, but the gameplay is more involved, with spells to cast and an assortment of unusual hazards to overcome. There are only eight levels to explore, and most of the time is spent running around shooting strange creatures, but it is very playable and ranks as one of the most professional releases to appear for the Atari in some time.

OVERALL 83%



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the GAMES machine REVIEWS

You've probably noticed that, unlike our sister magazines CRASH and ZZAP! 64, THE GAMES MACHINE isn't a single-user, review-based magazine! This doesn't mean we will be skimping on our coverage of releases – we're just taking a different approach to reviewing games. Each issue will feature a dedicated reviews section – a separate feature in its own right if you like. Our review section is not intended to be the definitive consumers' guide to available software: it's more a part of the service we want to provide. We aim to offer up-to-date news, reviews, and previews of what's happening in the software world. We want to offer a different perspective – an additional opinion on software . . .

Newsworthy snippets and relevant historical information are included in the reviews, along with a description of the game mechanics and useful criticisms. If a version of a game is not available at the time a review is written, we'll do our best to tell you the state of play. As new versions of games we've already covered in detail become available, we'll keep you informed through VERSION UPDATE – the pages preceding this reviews section.

You may also have noticed a lack of budget software reviews in this issue – well don't despair. We won't be ignoring budget software . . . next issue sees the start of a dedicated budget software reviews section entitled CHEAP THRILLS.

LEAD REVIEWS

BUBBLE BOBBLE

Taito's cult classic arcade game has been competently converted to the Commodore 64 and Spectrum by **Software Creations** and released by **Firebird Gold**. A selection of screenshots from the Atari ST version compliment the additional beginners tips.

PAGES 66 & 67

CALIFORNIA GAMES

The fifth release in **Epyx**'s *Games* series features six exciting new events from America's Golden State. Available from **US Gold** for the Commodore 64 in late September, with **Choice Software** conversions for the Spectrum, Amstrad and MSX to follow in October.

PAGES 78 & 79

RENEGADE

Imagine prove their worth with commendable conversions of **Taito**'s coin-op beat 'em up for the Spectrum and Amstrad. Commodore 64 owners haven't got long to wait . . .

PAGES 54 & 55







REVIEWS SUMMARY

PRESS ANY KEY

TAKE A WALK ON THE WILD SIDE

RENEGADE
Imagine

Following their crop of **Konami** conversions, **Imagine** have been turning their attention to licences acquired from another Japanese coin-op company, **Taito**. After versions of *Arkanoid* and *Slap Fight*, comes *Renegade*, starring another pixellated avenger in the Charles Bronson mould.

The scene is set: travelling across town, late at night to reach your girl, Lucy, you encounter gangs of ruthless villains, crazed with bloodlust by the full moon. They're out in force, eager to dispose of anyone audacious enough to enter their territory, and you're wandering right through their patch . . .

The fighting action starts in a tube station, where a gang of muggers attack, some armed with pipes which they hit against their hands threateningly as they circle round your lone form in anticipation. Jumping, kicking, punching and ducking, the aim is to spill blood and dispose of all the muggers. When only three members of the gang remain, their Boss appears – and like all the Bosses, this dude is a lot tougher than his accolytes, capable of taking a lot of punishment before expiring.

OFF YER BIKE

Out in the open air next, strolling by the Pier where bikers zoom in for the attack, riding past and knocking you down unless a well-placed kick unsaddles them. Then a veritable choir of Hells Angels attacks en masse, attempting to pummel your frail form with their fists. A few arch-Angels are armed with chains, which they wield with painful accuracy.

After disposing of the biker Boss the route to Lucy takes you through the back-streets of Tinsel Town, where gangs of rough, tough women object to the presence of a mere male and show their disgust by attempting to flay your hide . . . with clubs and whips! Big Bad Bertha is their Boss, a large lady who rushes around, elbowing you painfully until she's subdued with a few well-placed kicks.

SHARP RAZOR

Nearly in the arms of your beloved . . . but the final gauntlet has still to be run – the street leading to the meeting place, where a gang of razor-weilding thugs attempts to prevent progress. A single slash is more than painful – it's deadly. Surviving the close shave merchants, you enter the building where Lucy awaits . . . along with a gang of the most vicious thugs yet encountered. And their leader isn't armed with a fuzzbox – he's got a gun, and he's not afraid to use it.

GRATUITY

This violent little number, which allows you to hit a man when he'd down – you can kneel on a fallen assailant and smash his brains out, literally – isn't exactly mind-improving, but the violent touches add to the atmosphere and make *Renegade* all the more enjoyable to play.

The gangs encountered on the jaunt across town all have their favourite dirty tricks – for instance one thug grabs you from behind and holds you while another gang member beats you senseless, but graspers can be shaken off and then beaten to a pulp while they are down. You can fight dirty too, though, and can deliver a mean knee to the groin . . .

There are no plans for 16-bit or 8-bit disk versions of *Renegade* at the moment, and all versions with the exception of the 128 Amstrad CPC and Spectrum are four part multi-load. While the tape-based multi-load doesn't disrupt the flow of the action too badly, it can be frustrating when you have to reload, especially if you've reached the later levels before expiring.



COMMODORE 64: an Imagine-made mock-up of Level One

AMSTRAD CPC: four motorbike riders need to be disposed of before you take on the gang of chain-wielding Hell's Angels on Level Two



AMSTRAD CPC: Level Three – Tinsel Town, where a gang of heavily armed women follow the orders of a heavy duty lady

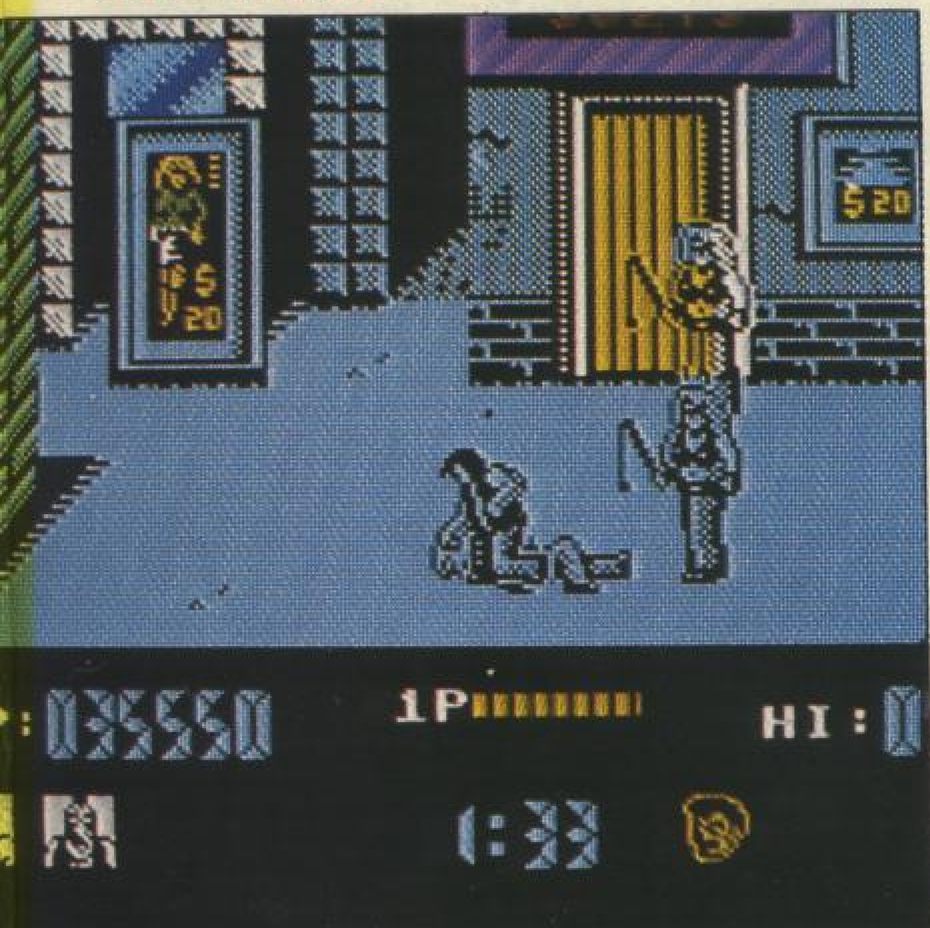






COMMODORE 64
Cassette: £8.95
Diskette: £12.95
Delays have held up completion of the Commodore version, as Imagine's Gary Bracey points out: "It's taken longer to write because it's a lot harder to get so much moving on screen at once." However, Renegade is virtually complete and should be available by the time you read this . . . Find out how it compares with its Z80 counterparts in Version Updates, next issue.

SPECTRUM: Hey! That ain't no way to treat a lady . . . but these ain't no ladies



AMSTRAD CPC
Cassette: £8.95
Diskette: £14.95
In converting Renegade to the Amstrad, not only have Imagine managed to bring across the playability of the arcade original, they have managed to improve on it. A commendable achievement, as the essential fun element of the game could so easily have been lost. This version has a much better feel than the one produced for the Spectrum – it's most gratifying to take on dozens of attackers, all out for your blood, and to win against seemingly impossible odds. It's enough to make you forget that this is essentially little more than a just another fighting game. One annoying problem that might have been overcome is presented by the control system – the joystick is only used to move. Punches and jumps are executed via the keyboard rather than the fire button: fine when using a joystick on a table, but far from convenient with the joystick in your lap.

OVERALL 87%

SPECTRUM 48/128
Cassette: £7.95
Apart from being a single load, the 128K version features an improved tune and the throw move, which is also found in the arcade original but isn't implemented in other versions. The graphics are surprisingly clear and detailed, and move extremely well, enhancing the overall feel – which is what makes Renegade so exciting to play. A worthy addition to your software library.

OVERALL 82%

" . . . the violent touches add to the atmosphere and make Renegade all the more enjoyable to play . . . "

WEST COUNTRY EXPRESS

EVENING STAR
Hewson

Hewson's simulation expert, Mike Male, an air traffic controller began his programming career years ago by taking his work home . . . *Heathrow Air Traffic Control* is still selling today. After a spell of airborne simulation programming Mike came down to earth, collaborating with a railway enthusiast to write the world's first steam train computer simulation, *Southern Belle*. Now Mike and collaborator **Bob Hillyer** have completed the world's second steam train simulation: *Evening Star*.

It goes without saying that fans of *Southern Belle* will enjoy taking the controls of a BR9F class locomotive on the route between Bath and Bournemouth. Once again you can stand on the footplate of a classic locomotive and see how you would have made out as an engine driver and fireman.

Programmer Mike sees this new simulation as an improvement on *Southern Belle* – having found ways to cram more into the computer, he has not only managed to extend the length of track, but has improved the graphics display, tinkered with the control methods so that they are more accurate and added the facility to continue a run, even after a derailment – in *Southern Belle* you had to start all over again if something went seriously wrong.

HAZARDS

The track in *Evening Star* contains a variety of hazards not found in *Southern Belle*, including single-track sections, and owing in part to the increased length of the run, there's a greater variety of gradients and speed limits to negotiate.

Seven modes of play are offered, from a totally computer-controlled demonstration through a training mode where the objective is simplified and some of the controls are delegated to the micro, to timetabled runs that may involve stopping at stations or hurrying through on an express run. Whichever run you attempt the view is from the footplate with representative wire-frame graphics creating the illusion of movement. Panels around the main display provide information on the status of the train, supplemented by gauges in the cab itself. All adjustments to the engine's controls are made via the keyboard.

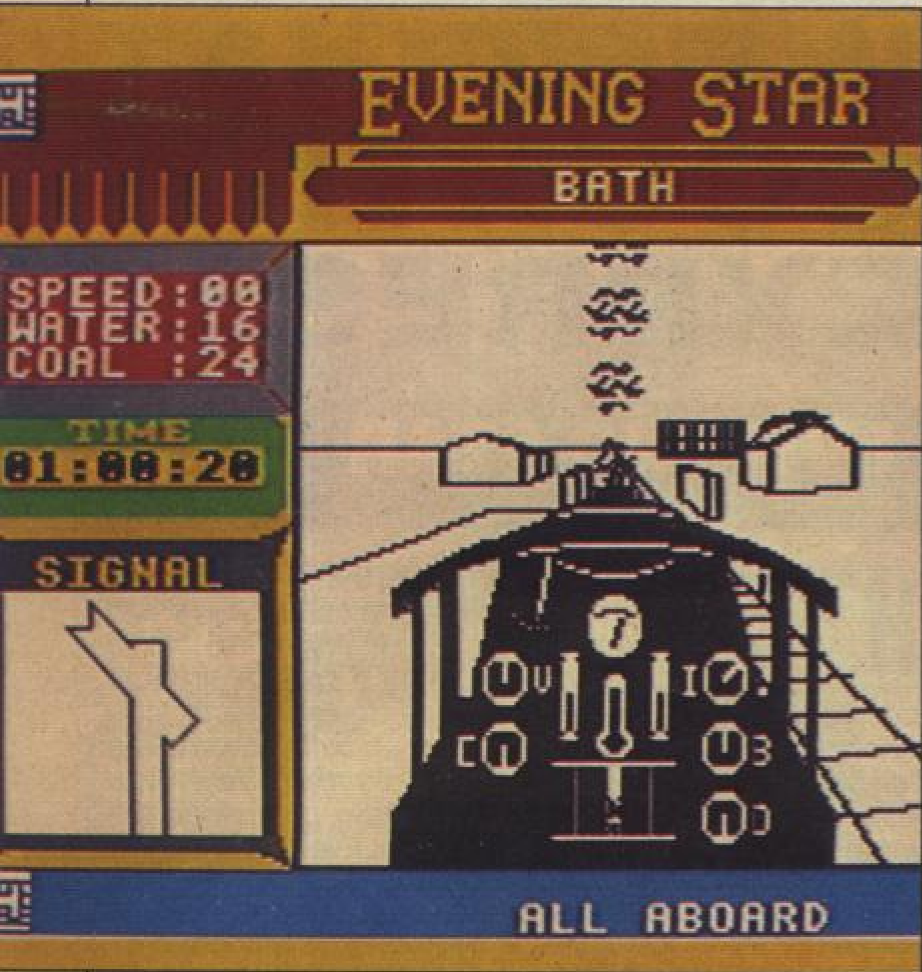
RATING

As in *Southern Belle*, you don't win as such – at the end of a run you are awarded a percentage rating which takes into account how close you came to achieving the

AMSTRAD CPC: the BR9F class locomotive prepares to leave Bath station



PRESS ANY KEY



COMMODORE 64: at Bath station

particular objectives of the run just completed and the skill used in handling the train's controls for maximum efficiency and economy.

The full journey can take over two hours to complete in real time, so two useful options have been provided – gametime may be accelerated, or a partially completed run saved to tape or disk to be resumed at a later date. The save and reload facility (not available on the Electron) should add greatly to the convenience of train driving . . .

INTENTION

Mike Male points out that the intention behind *Evening Star* was to develop on the simulation techniques used in *Southern Belle*: "We wanted to add more flexibility, by offering the option to complete smaller runs and the line was chosen because it is more primitive, containing more single track sections and more gradient differentials. The basic principle is the same as *Southern Belle*, however. We hope people who didn't play *Southern Belle* will be attracted to this new, improved simulation – which is why we're releasing it on disk as well as cassette."

SPECTRUM 48/128
Cassette: £7.95
AMSTRAD CPC
Cassette: £8.95
Diskette: £14.95
COMMODORE 64
Cassette: £8.95
Diskette: £12.95
BBC/ELECTRON
Cassette:9.95
Diskette: £14.95

If you played Southern Belle **and thoroughly enjoyed it, this is an essential purchase. Mike and Bob have put the benefit of the experience they gained from their first train simulation into** Evening Star**, and the concept has been fine-tuned as a result. A new track, a new set of parameters for playing the game and a more accurate control method mean that purists will find much more to delight them. If detailed historical notes and complex controls are not the sort of thing you look for in a game, stick to shoot 'em ups! All versions of** Evening Star **are effectively identical, with minor alterations made to suit individual machines. There's little point in rating this game – it's neatly executed and accompanied by detailed and accurate documentation, but you'll either love it or hate it for what it is.**

"Once again you can stand on the footplate of a classic locomotive and see how you would have made out as an engine driver and fireman . . . "

STONE SHIFTI

SOLOMON'S KEY
US Gold

Yet another in the current crop of **US Gold** arcade licences arrives, this time a coin-op game from **Tecmo**, the people behind *Rygar* amongst others. And yes, it's those busy boys at **Probe Software** who are responsible for the home versions.

King Solomon's treasure is what you're seeking, but the wily old king has defended it well – before reaching the riches you have to pass through some 20 caverns, each featuring an arrangement of stone blocks, an exit, a key and hidden bonus objects. In some ways *Solomon's Key* is a sort of *Boulderdash* in reverse – instead of clearing a pathway to success, you have to build one.

Every screen is a little puzzle in its own right – a route has to be found to the exit door, and at the start it's not obvious. Some of the blocks that form walkways are immovable, whereas others can be magicked away and recreated elsewhere with a wave of your wand – blocks can be created or destroyed in six directions by 'waving' the wand and pressing fire. Blocks may be disposed of, *Super Mario Bros* style, by headbutting them twice, and hidden bonus objects or potions are often revealed. By drinking a potion the otherwise defenceless character gains a fireball to throw at the creatures scurrying through the screen.

GUARDIANS

Most of King Solomon's guardians move in predictable patterns –

AMSTRAD CPC: the going gets tougher on Level Three



E
TING

some simply turn around when they hit stone, while others breathe fire to destroy anything blocking their path. All are deadly and best avoided, but look out for the fairies that make the occasional appearance – capturing one confers an extra life.

To progress from one screen to the next, the key has to be collected so the door can be unlocked – and in most cases this task is far from easy to complete, as there is a time limit to beat. Time remaining on the clock as you leave a screen is converted into bonus points.

Solomon's Key is in a similar vein to *Bubble Bobble* – it's simplistic but immensely playable, and requires an unusual combination of fast reactions and quick, logical thinking.

AMSTRAD
Cassette: £9.99
Diskette: £14.99
It may not look that wonderful, but it sure plays like a dream. A jaunty tune runs throughout, with a 'cute' Hi-De-Hi style jingle when you lose a life.
OVERALL 90%

COMMODORE 64/128
Cassette: £9.99
Diskette: £14.99
SPECTRUM 48/128
Cassette: £8.99
ATARI ST
Diskette: £19.99
All three versions are complete, but were not available for review as we went to press. The Probe team seem to know what they're doing, so there shouldn't be any disappointments lying in wait for Commodore and Atari owners . . .



"In some ways Solomon's Key **is a sort of** Boulderdash **in reverse . . . simplistic but immensely playable . . ."**



High-speed shoot 'em up action at its best, courtesy of Simon Nicol

COMET CRAZY

MEGA APOCALYPSE
Martech

COMMODORE 64 ONLY
Cassette: £8.95
Diskette: £12.95

Further inspired by the obscure and archaic arcade game *Mad Planets*, **Simon Nicol** has taken four and a half months of fairly intensive programming to improve on his first attempt, *Crazy Comets*. And the good news is, he's succeeded – admirably.

Using a Commodore Sound Sampler, and some ingenious programming techniques, Simon has managed to cram six seconds worth of sampled speech and sound effects into 18K – a quarter of the original sample length – without seriously degrading the quality, and more importantly without noticeably slowing down the proceedings on-screen.

Two players can take turns, play together as allies or play against each other – or you can go solo planet shooting. "Get Ready" warns the computer as the action begins . . . Planets and comets bounce onto the screen, entering a cosmic shooting gallery where their destruction add points to the score. There are three types of planet to destroy – ranked in increasing or of size and point value they are Mega Callisto, Mega Krypton and Mega Xothopian. Mega Callistos are used as the pawns in this planetary game of chess – and there are a lot of them. A single shot is all that's required to destroy them as they travel from the back of the screen towards you, and they have the lowest points value.

Following the rules of perspective, the Mega Callistos appear to get larger as they get closer to your ship, but the Mega Krypton and Mega Xothopian bodies arrive on the same plane as your ship, and so appear full-size. If all the incoming Callistos from a wave are shot before they arrive level with your ship and attain maximum size, a points bonus is awarded.

A Callisto that is allowed to complete its journey towards your craft takes several shots to kill off and it bounces around the screen getting faster and faster as more shots are pumped into it. After a while, planets start homing in and the action gets fast and furious when the Kryptons and Xothopians come out to play after Level Two . . . this is where an automatically-launched missile comes in handy.

Missiles and other add-ons for your ship are gained by collecting pods that bounce onto the screen at the beginning of a level. Apart from missiles, pods can confer the ability to rotate the ship, yield extra speed or grant additional lives – and appropriate snatches of speech greet the capture of each type of pod.

A Rob Hubbard remix of the *Crazy Comets* theme plays throughout, and sampled speech and spot effects are over-dubbed to great effect. The speech is uncannily clear – undoubtedly some of the best heard on the 64 – and the spot effects are loud and functional. The graphics are fairly simplistic, but move smoothly to generate an impressive overall effect – especially the gorgeous multi-layer starfield, which is worth leaving to its own devices and just admiring.

Variety is certainly lacking in the gameplay, but the action is addictive, highly polished and very fast – there's hardly a split second available for contemplation. Two high score tables record the top 40 scores – a Galactic Hall Of Fame keeps track of the all-time top 20 best scores, while 20 lower scores are recorded in the Ultra Scores table.

Mega Apocalypse is certain to appeal to ardent fans of *Crazy Comets*, and should also prove demanding enough to entertain anyone interested in a straightforward, mindless blast.

OVERALL 85%

" . . . the action is addictive, highly polished and very fast . . . certain to appeal to ardent fans of Crazy Comets **. . . "**


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California Games™ features superb graphics, all the atmosphere of the West Coast, and one to eight players can take part. All the quality you expect from an Epyx product is here and so much more. We could tell you more but instead lets hear what ZZAP 64 had to say:
"California Games is quite simply the apex of computer sports gaming".
"Even in purely technical terms Epyx have somehow managed to surpass their own high standards — the pictures and sounds generated by this program are atmospheric beyond belief.
"If you gather up all the superlatives from previous Epyx reviews and add them together, you just might go halfway towards describing California Games".
There. Need we say more?
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A MAGIC SEQU

ENLIGHTENMENT (DRUID II)

Firebird Gold

Development house **Electralyte** only have one product to their credit – *Druid*, released by **Firebird** on the Commodore 64 almost a year ago. **Dene Carter** is the man responsible for designing *Druid*, which was apparently loosely based on a Games Workshop role-playing game. He's also behind this sequel – essentially a beefed-up version of its predecessor, with 15 levels to explore and 32 different spells to use.

Enlightenment is set 103 years after Hasrinaxx the Druid drove the evil Acamantor's influence from the land of Belorn. But now the evil one has returned, and it's up to the Druid to destroy his adversary once and for all. The action starts in the village of Ishmar, where zombies and skeletons attack on sight, and occasionally trees uproot and join the fray. The Druid disposes of his assailants by shooting them with bolts of electricity that drain his reservoir of charge – should electrical reserves run too low, the hero is vulnerable as he waits for the reservoir to replenish. Spells are also available for collection and use.

Just like the original, the screen scrolls around the Druid as he negotiates the maze-like features of the landscapes. Locked doors bar the routes from one area to another and bar access to subsequent levels, but yield if a key is in the inventory. The inventory comprises eight pockets and a keyboard-driven pocket-select system that is used to pick things up, store them and bring them into use. When the action gets frantic, fumbling in your pockets for a useful item can prove frustrating . . .

SANCTUM

Play ranges over ten lands and the five levels of Acamantor's inner sanctum. The great outdoors features landscapes of desert and fire, rocky plains, woodland, swampland, water, caverns of Darkness, a poisonous land of fungus and an ice region. This time, the Druid has a selection of four elementals that may be summoned as travelling companions, including the cumbersome clay Golem that accompanied him in the first game. There's Wisp, a fast but weak Air Elemental, Phoenix, a Fire Elemental that is fast-moving but weakened by water and Kraken, the Water Elemental that is rendered weak by heat.

Spellpower and magic are the mainstay of any Druid, and this one is no exception. A multitude of magic, both offensive and defensive, is scattered around the play area including two different strengths of 'Smart Bomb' – Deathlight and Deathland – which destroy most creatures within a limited range. Lightning bolts are ten times more powerful than basic electric bolts and are very useful for dealing death. Opponents may be hampered by using spells such as the Crucifix or Turn Away spells which frighten creatures away, while the Slow spell induces lethargy into attacking creatures, allowing you to outrun them. If keys are in short supply, the Doorblast spell blows open all doors within a limited range, killing any nearby creatures in the process.

PROTECTIVES

Short-term protective spells include the Fireshield (as its name suggest, it defends against fire), and the Armour spell that wards off the effects of minion attacks.

Casting the Teleport spell on a magic symbol transports the Druid to a corresponding symbol in a different area, while the Resurrection spell is perhaps the most useful spot of magic – it acts as a 'save game' feature, creating a gravestone when it is cast, allowing the Druid to reappear after death with full strength.

Should energy levels of the Druid or his Elementals be flagging, casting the right spell rejuvenates them, while if all around is dark the long-lasting Create Light magic causes the Druid to glow – a neat effect, similar to that seen in **Ultimate**'s *Entombed*. Magical radar is available in the guise of the Seeing Eye spell that reveals a glimpse of what's around the corner, and two mysterious mor-

COMMODORE 64: a sample of the action found in Dene Carter's addictive sequel to DRUID

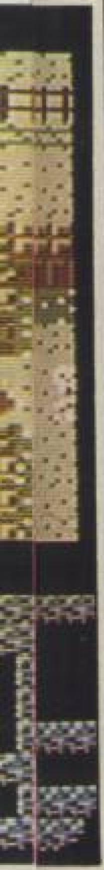


COMMODORE 64: the Druid discards his golem



UEL

sels of magic known as the Horn of Baeon and the Coin of Charon may be discovered later in the game. Finally, the most powerful spell of them all is the White Orb, used to destroy Acamantor and reach Enlightenment.



ATARI 800
Cassette: £9.95
Diskette: £14.95
John Crowdy, **who recently produced a superb version of** Druid **for the Atari, has been assigned the task of** Enlightening **800 owners – so chances are the sequel will be just as impressive.**

SPECTRUM 48/128
Cassette: £7.95
AMSTRAD CPC
Cassette: £8.95
Diskette: £14.95
Unlike Druid, **which was converted by the** Electralyte **team, the Spectrum version of** Enlightenment **is being produced by newcomer** Brian Pollock. **Brian replied to a programmer recruitment advertisement, and although he hadn't written a game, he managed to impress** Firebird **with a multi-directional scrolling routine, complete with moving sprites. Brian's partner,** Owen Hines **is beavering away at the Amstrad version – both promise to be as good as or even better than the conversions of** Druid.

COMMODORE 64/128
Cassette: £8.95
Diskette: £12.95
Enlightenment **is basically 'more of the same', fronted by a brilliant loading screen by** Paul Docherty, **who is currently working for** Thalamus **on a Stavros Fasoulas concept.** Druid **addicts will love this sequel – it's is a lot harder to complete, although like the original play consists mainly of running around shooting things, with spells to cast to break the monotony – all quite atmospheric and entertaining though. One annoying feature is encountered in the marshland: you can get stuck at the bottom of the screen where creatures can't reach you to drain energy, but the Druid can't move either, so the game has to be reloaded and play started again.**
OVERALL 80%

"Druid addicts will love this sequel . . . atmospheric and entertaining . . . "

BLOCKBUSTING DROIDS

RED LED
Ariolasoft/Starlight

Ariolasoft's new **Starlight** label got off to a less than impressive start with its first two mediocre releases – *Deathscape* and *Dogfight 2187*. While being polished and professional, both lacked lasting action . . . something which *Red LED* certainly doesn't suffer from.

A long time ago, in a galaxy far far away, the galactic mining companies developed remote-controlled droid mining systems to enable them to gather rare minerals from dangerous and inaccessible planets. The need for such antiquated methods has long since passed, but the mines are now used as a sporting arena.

You are presented with a grid made up of hexagons, and each hexagon represents a battle terrain. The overall aim is reminiscent of the TV boardgame, *Blockbusters*, in that the objective is to form a left-to-right link across the grid. Hexagons are won by collecting the objects they contain and then leaving. Three battle-droids are offered up to do the dirty work, and they have different capabilities and strengths. For example, one may hover safely over acidic pools while another can remain stationary on steep inclines. Kamikaze alien droids lurking in the system get in the way, making life difficult and the terrain is unfriendly, to say the least – sudden sheer drops are encountered regularly. There's also a time limit – you've got an hour to establish a link from one side of the play area to the other.

It's not all bad news though. Smart bombs are hidden away in the terrain, along with ice-switches that freeze acid pools when activated, permitting safe passage for those underprivileged droids who find hovering difficult. Now and again you encounter a strange droid-freeze gizmo and when it is touched the harrassing aliens are stunned into a state of immobility until they can crack the blocking frequency the device emits.

Teleport pads behave as their name suggests, allowing instantaneous travel to another section of the landscape, while time-distort capsules increase or decrease the remaining game-time by five minutes – capsules rotating clockwise add five minutes but the anti-clockwise ones remove five minutes. Enemy droid generators can be eliminated, although they accept multiple hits before ceasing to work – and while your droid is blasting away at a generator, the enemy droids tend to rally round and shoot at you.

Touching other droids or being shot raises the temperature of your droid, and every time you take a wrong turn and fall off the landscape a minute of time is lost. Overheating is fatal to droids . . .

Collecting the letters B O N U S gains access to a sub-game which can lead to a complete overhaul for your droid if played well.

On the surface, *Red LED* looks like another *Marble Madness* clone owing to the style of graphics. But there's a lot more to it – each section has different physical characteristics, so strategic choices need to be made between the three available droids. Combined with the original and highly addictive nature of the gameplay, this should keep blasting fans happy for a long while.

COMMODORE 64/128
Cassette: £9.99
Diskette: £14.99
Graphics and sound are good, and control of the three droids is smooth and accurate, although it takes a bit of mastering. The task assigned may seem enormous, but each time you play, a little more progress is made – enough to urge you to have just one more go and cross that grid. A very compulsive game, and a pleasant surprise from Starlight.
OVERALL 82%

SPECTRUM 48/128
Cassette: £8.99
AMSTRAD CPC
Cassette: £9.99
Diskette: £14.99
Versions are currently being completed – look out for our verdict next issue in VERSION UPDATE.

"A very compulsive game . . . should keep blasting fans happy for a long while . . . "

COMMODORE 64: one of the many tortuous landscapes to negotiate



A PICTURE STORYBOOK

ACCOLADE'S COMICS
US Gold/Accolade

COMMODORE 64 ONLY
Diskette: £29.99

American software company **Accolade** is a comparative newcomer to the UK software scene, but in roughly 18 months they've established themselves with a string of quality releases including *Hardball*, *Psi-5 Trading*, *Law Of The West*, and more recently, the impressive detective game *Killed Until Dead*. *Accolade's Comics* is licensed from **Distinctive Software**, and although *Comics* is available for both the Commodore 64 and the Apple II, **US Gold** have no plans to import the Apple II version into the UK.



An example of the comic-book capers

Billed as the first living comic book, *Accolade's Comics* concerns the exploits of Steve Keene: Private Spy, and is in effect, a simplistic, multiple-choice adventure interspersed with eight equally simplistic arcade-style games that appear at opportune moments during the course of the game – Climber, Swimmer, Robots, Building, Jetpack, Conveyor Belt, Rail Car, and Bomber. The arcade sequences may be played in practice mode, or the entire game played as a whole.

Approaching the adventure from the top sets Steve Keene on one of several cases. Individual comic frames appear on screen, one by one, and the player is required to make simple choices every so often via the joystick or keyboard. Sometimes a speech bubble with several alternative responses appears above Steve and the joystick needs to be toggled to select which one is to be used before the story can continue to unfold. Occasionally another character's question has to be chosen or a course of action selected. All the choices affect the flow and ultimately the outcome of the story.

INTERACTION

The level of interaction is fairly minimal – while the stories are entertaining and amusing to read (first time around, at least) it would have been nice to have been given the opportunity to become more involved in events. The contents of the latest frame to load are usually animated, and facial expressions change, arms wave, feet tap and so on, but as soon as the fire button is pressed, the next frame starts loading and the animation freezes.

Steve has five lives. He loses one if you make a fatal mistake while influencing the story, or more traditionally, the hero loses a life every time you foul up on one of

the arcade sequences.

Accolade's Comics is well produced, beautifully packaged and presented, and features an excellent introductory sequence, complete with superb animated credits. Neat touches, such as the page flipping and the variety of ways used to build up a new frame as it loads, help to add variety. There's a lot of effective comic-style story to plough through too, which is why this is a three-disk package, with both sides of each disk used.

Despite being an original and innovative concept, there just isn't enough gameplay to justify the hefty price tag – understandably high, given the nature of the package and the limited potential for sales in the cassette-orientated UK. Too much time is spent waiting and not there's not enough action or thinking involved for the game hold attention for long. A self-indulgent purchase, justifiable if you can afford to treat yourself to something out of the ordinary . . .

OVERALL 53%

"Despite being an original and innovative concept, there just isn't enough gameplay . . . "

VENOMOUS VILLAINY

MASK
Gremlin Graphics

Kenner Parker Toys Inc are certainly pursuing every conceivable avenue to market their product, MASK. It was inevitable that it would appear as a computer game before long – the scenario is custom made and TV cartoon conversions seem to be the trend of the moment. *Centurions* and *Roadrunner* have recently arrived and *Yogi Bear* and *Basil* have already started their journies into the home computer.

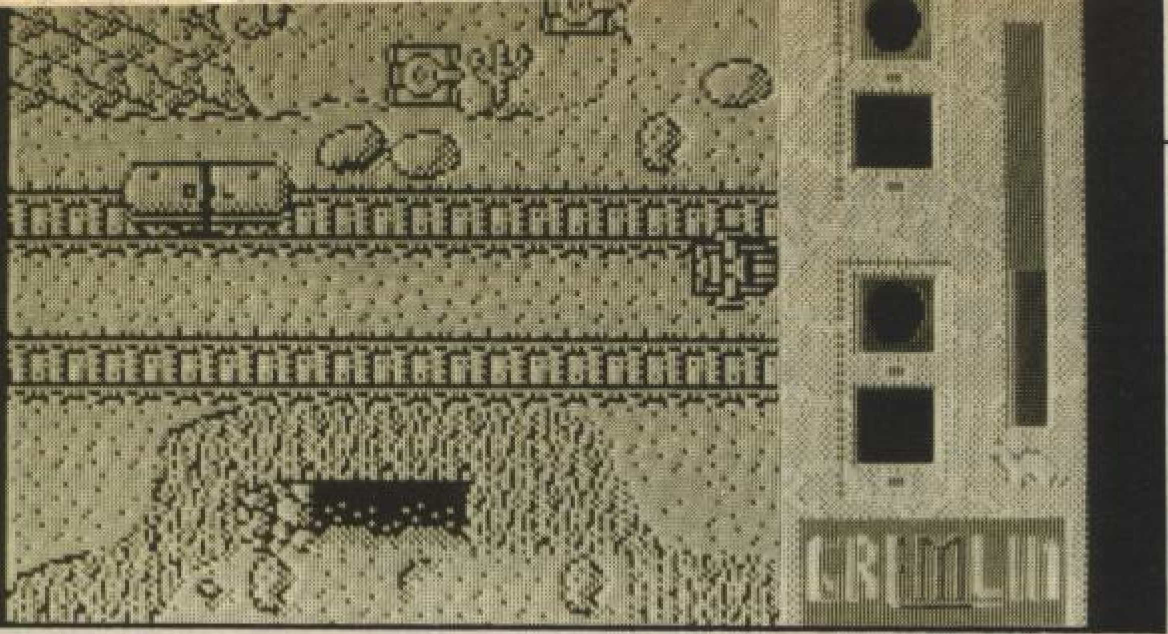
Hi-tech organisation MASK is the brain child of the brilliant strategist Matt Trakker. Along with his agents, Matt has the job of fighting the evil forces of VENOM and preventing arch-villain Mayhem from reaching his goal: world domination. The criminals have the upper hand at present – they have detonated a bomb that has sucked all the MASK agents into time warps. Matt Trakker is the only member of the team to escape the effects of the blast, and he's off to save his colleagues. The mission involves taking control of Matt's damaged Thunder Hawk hovercar, destroying the Venom snake base and rescuing the missing agents.

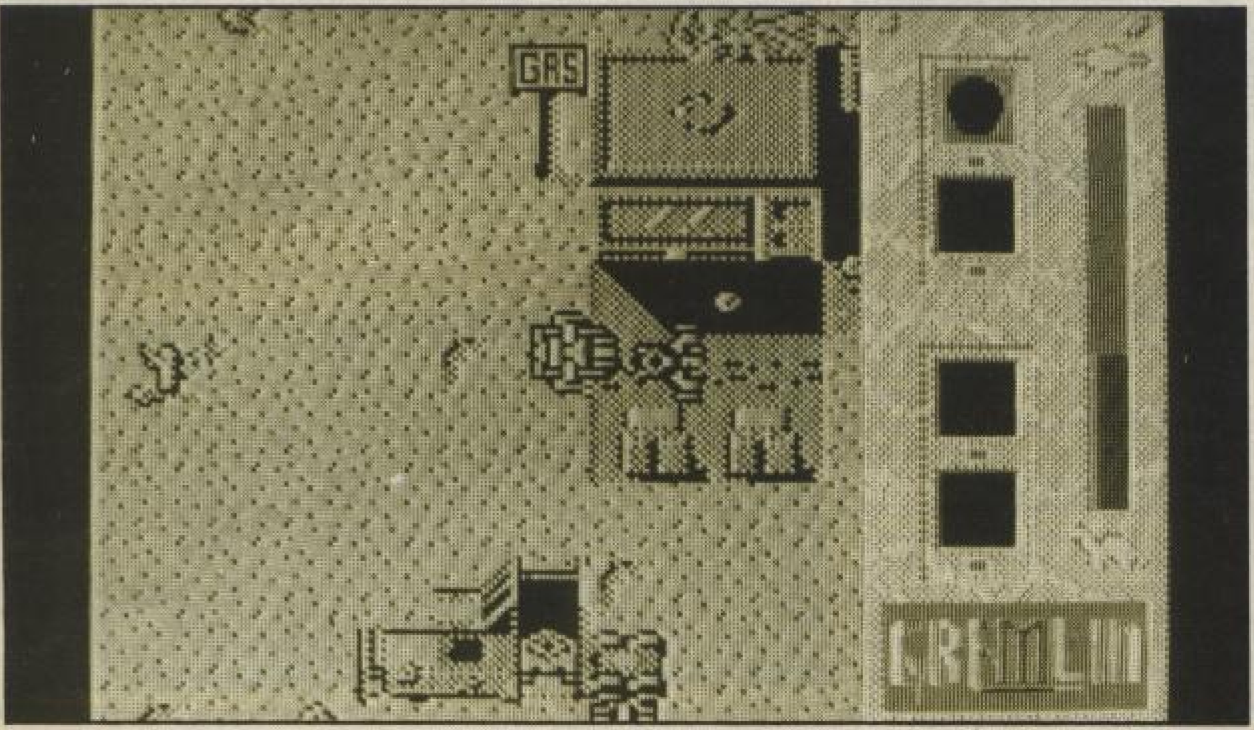
Using a multi-load approach, four sections of terrain are presented sequentially: Boulder Hill in the present day; prehistoric time; the far future – and the area surrounding VENOM's base. Played over a multi-directional scrolling landscape, the four sub-missions contain their own particular obstacles in keeping with the dateline and call for slightly different skills.

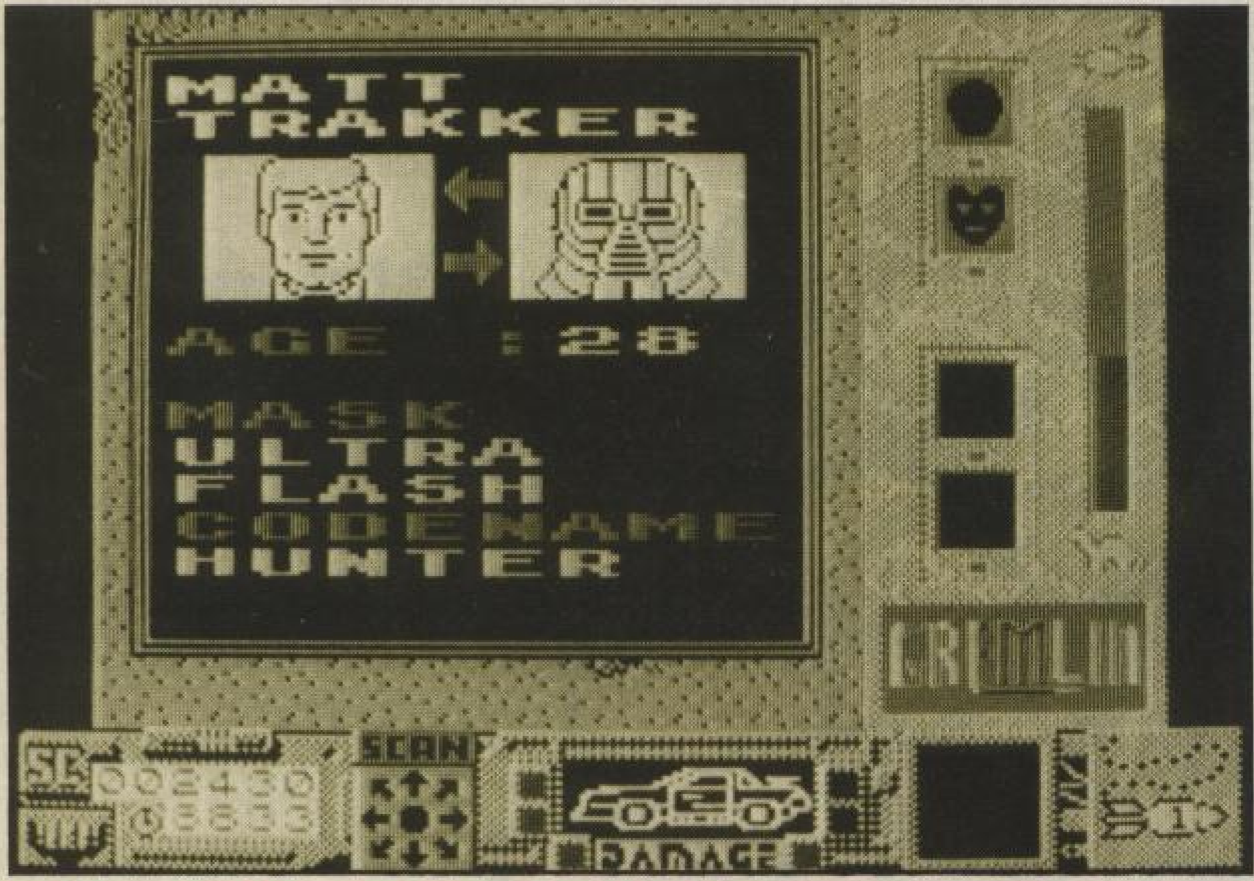
AMSTRAD CPC: Level Three – the far future, complete with destructable monorail!



PRESS ANY KEY







SPECTRUM: monochromatic graphics don't MASK the gameplay

SCANNER

The first task is to collect the components for a scanner that points the way to the agent imprisoned on the current level. After the scanner has been assembled, the elements of a security key have to be collected, pieced together in a little puzzle game and input before the scanner works. Apart from these components, ammunition and repair kits are littered around the play area, providing a useful source of encouragement when the ravages of the VENOM forces take a toll on your flying car.

The kidnapped team member and his mask have to be located and released before Matt can return to the time vortex created by VENOM's bomb and proceed with the next level.

The instructions are well presented and comprehensive, with the scenario explained in an easy to read comic book form. However, they do neglect to mention that MASK is multi-load, and there are problems with the Spectrum version: 'The program will load and run automatically' – it does, but because the Spectrum has no control over the cassette motor, the rest of the program continues to play but not load if left to its own devices. A minor niggle, perhaps, but who wants to sit around watching and waiting for each section to load? This problem is not found on the Amstrad version, and nor should it be present on the Commodore 64.

AMSTRAD CPC
Cassette: £9.99
Diskette: £14.99

Control of the vehicle is a little tricky to master as you have inertia to contend with. The terrains are neat enough, as is the scrolling and the movement of the enemy tanks, and care has evidently been taken in the design and programming. Obviously the visual excitement of the TV show cannot be portrayed on an 8-bit computer, but a certain sense of fighting on the side of truth and justice is conveyed . . . the urge to rescue all the agents and rid the world of VENOM once and for all is quite strong. One of the better television/toy tie-ins on offer.

OVERALL 71%

SPECTRUM 48/128
Cassette: £8.99

Apart from the extremely awkward and lengthy multi-load, the single colour main display works well enough, and the game itself is unpatronisingly playable. This should appeal equally to shoot 'em up addicts and fans of the comic and figures.

OVERALL 69%

COMMODORE 64/128
Cassette: £9.99
Diskette: £14.99

This version was incomplete at the time of going to press, but all going well, it should be available by the time you read this.

"One of the better television/toy tie-ins on offer . . . should appeal equally to shoot 'em up addicts and fans of the comic and figures . . . "

JEFFREY ARCHER

NOT A PENNY MORE, NOT A PENNY LESS

THE COMPUTER GAME



Atari ST
CBM 64
Amstrad CPC
Spectrum 48
Spectrum 128
BBC B & Master

"We have had our money stolen by a very clever man. Gentlemen I therefore suggest we steal it back. Each of you must return with a plan of how we are to extract $1,000,000 from him without his ever becoming aware of it.
NOT A PENNY MORE, NOT A PENNY LESS"

Published by
DOMARK

Scripted by: Robin Waterfield. Programmed by: Imagitec Design Ltd. Domark Ltd., 22 Hartfield Road, London SW19 3TA. 01-947 5624.

FOREVER BLOWING BUBBLES

BUBBLE BOBBLE
Firebird Gold

The first of two **Taito** arcade licences due to be released by **Firebird Gold** is the immensely popular *Bubble Bobble*, with *Flying Shark* due to follow in November. All conversions were produced by **Software Creations**, the programming team responsible for moving *The Sentinel* onto the Spectrum.

The bubble-blowing Brontosaures mentioned in the blurb are on a mission to battle through 100 screens and free their female friends from the clutches of the evil Baron Von Bonner. Up to seven creatures may lurk on a screen and Von Bonner is guarded by six different types of bully-minion– Benzo, Bonnie-bo, Boa-Boa, Blubba, Boris and Bonner.

Bub and Bob can both jump and blow bubbles. Enclosing a bully in a bubble renders it helpless, and bursting the bubble disposes of the bully, sending it flying across the screen to turn into fruit as it lands on a ledge. Chomping fruit earns bonus points, and extra points are won if more than one bubble-clad bully is burst at the same time.

HURRY MODE

Clearing all the bullies very rapidly causes extra goodies to appear on the next screen – and they confer high bonuses. Take too long to finish a screen, however, and you're told to 'Hurry Up'. The music then speeds up just to add to the tension. Ignoring the speed warning causes Baron Von Blubba to make an appearance – along with his brother if a two player game is in progress. The Baron and his brother follow the Brontosaures around the screen trying to kill them until either the last bully is destroyed or the Brontosaures are killed.

Platform arrangements on later screens become increasingly difficult to negotiate, and in many instances it seems impossible to complete a level. However, there are many tricks to be learned, such as bouncing on bubbles as they rise.

BIG BULLY

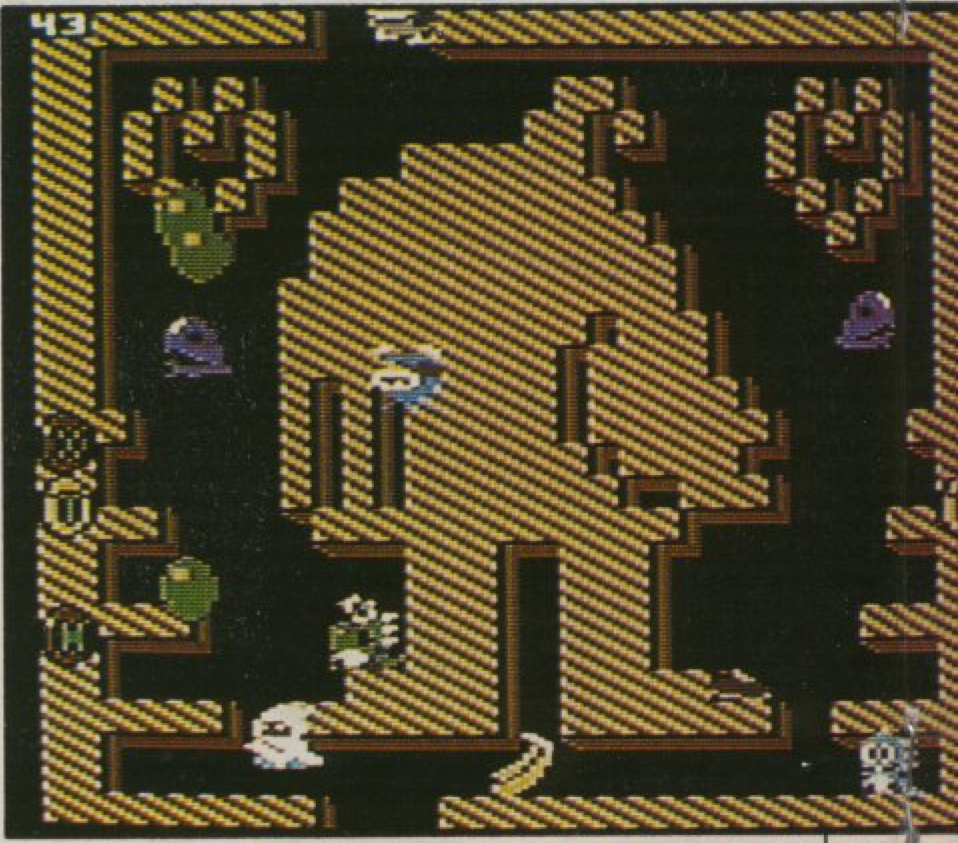
On the final screen Bub and Bob encounter the Baron – the biggest bully of them all, and also the most difficult to destroy.

Bubble Bobble is highly original, extremely addictive and great fun. Besuited businessmen have been known to relieve the day's tension by playing for hours on end, notching up impressive high scores in the process. But the extent of its success in the arcades is a mystery – its apparent simplicity could so easily have meant it being overlooked. But it wasn't – there's more to this game than first impressions suggest.

Software Creations deserve hearty congratulations for producing such high quality conversions of an excellent arcade game – they've somehow managed to cram all the features of the original into the comparatively miniscule memories of the home computers. Undoubtedly, *Bubble Bobble* ranks high amongst the arcade conversions available for home machines.



'Meet Bub and Bob our bantam-weight brontosaures who are bent on battling big bullies by blowing and bursting bubbles. Before battling these brazen bullies, beware that bubble blowing is better than blasting bullies with bazookas, or better than bouncing bombs from biplanes, and even beats boxing these brainless barbarians. So now that we briefly belayed the Bub and Bob biographies, begin by browsing the play instructions below and becoming the best Bubble Bobble bubble blower on the block.'
Taito's alliterative *Bubble Bobble* blurb



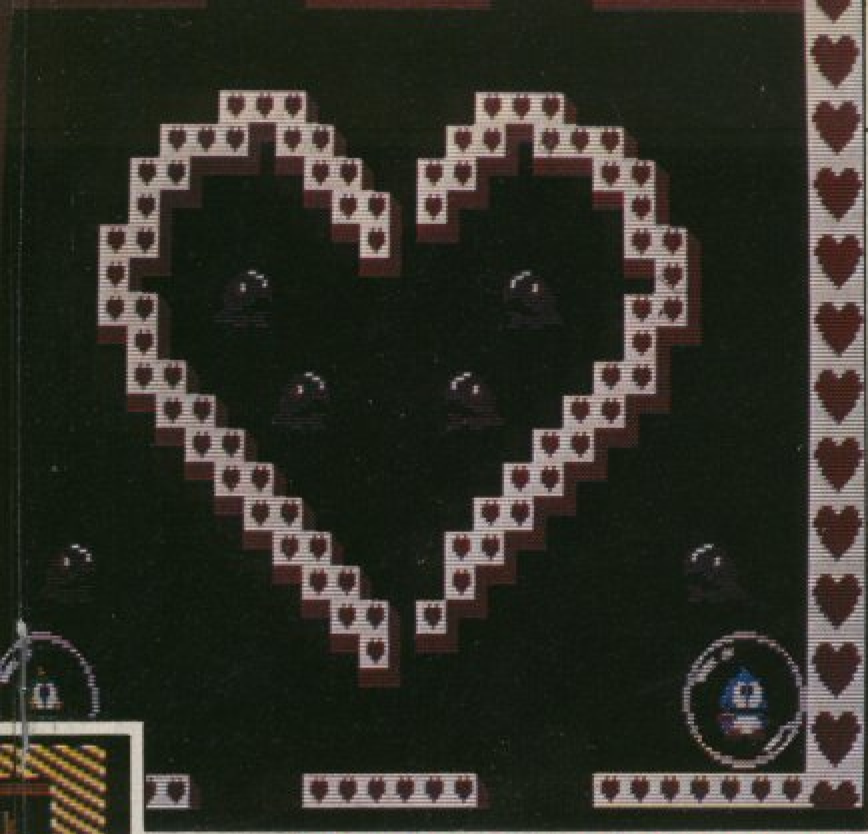
SPECTRUM
Cassette: £7.95
Doesn't look as good as its arcade parent because it's mainly monochromatic – but playability doesn't suffer. It wouldn't be fair to rate this version, as we've only played a near-complete copy in the Firebird offices. But we can assure you that it's a competent enough copy of the original to merit a purchase.

AMSTRAD CPC
Cassette: £8.95
Diskette: £14.95
The most incomplete version, but it should be ready for the PCW show – there's little doubt as to Software Creations' competence.

ATARI ST
Diskette: £19.95
This promises to be the most accurate conversion of the four – just take a look at the ST screenshots on this page.

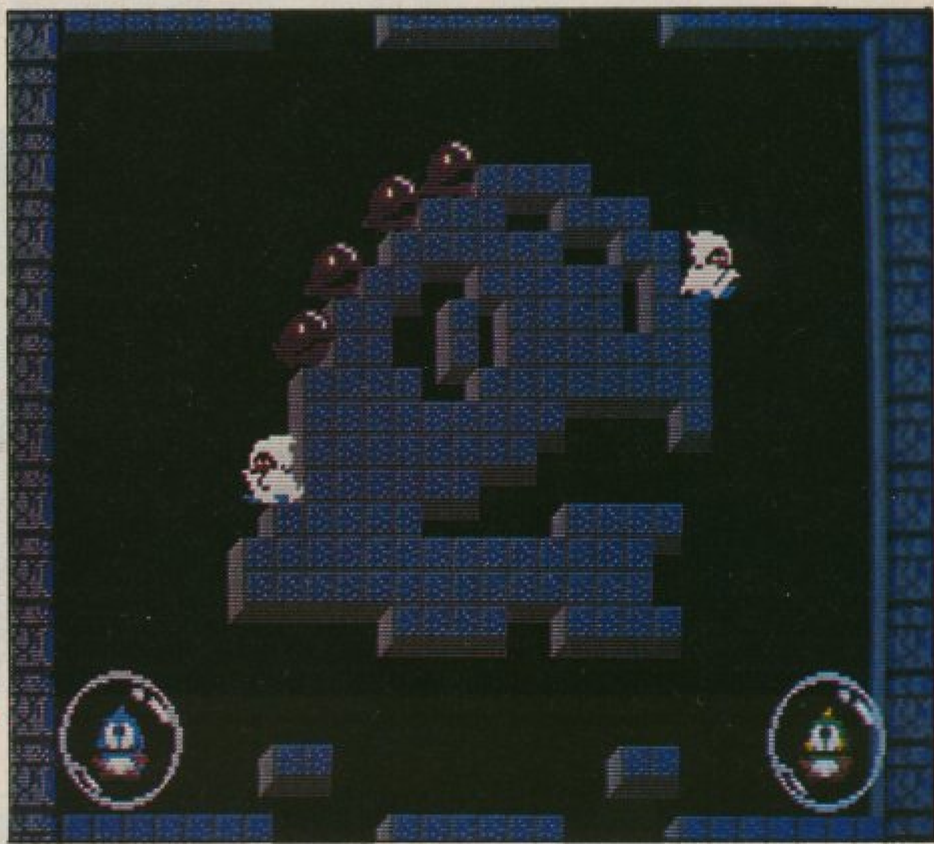
COMMODORE 64
Cassette: £8.95
Diskette: £12.95
Lacks the attract sequence including the highest level reached feature, but otherwise this is a near-perfect version, retaining the freneticism and immense addictive qualities of the original. Most impressive are the graphics and sound, which admittedly aren't as crisp and detailed as they are in the arcade game, but they do manage to capture the flavour of the the original. Interest may wane when playing on your own, but as a two player game it just can't be beaten.
OVERALL 93%

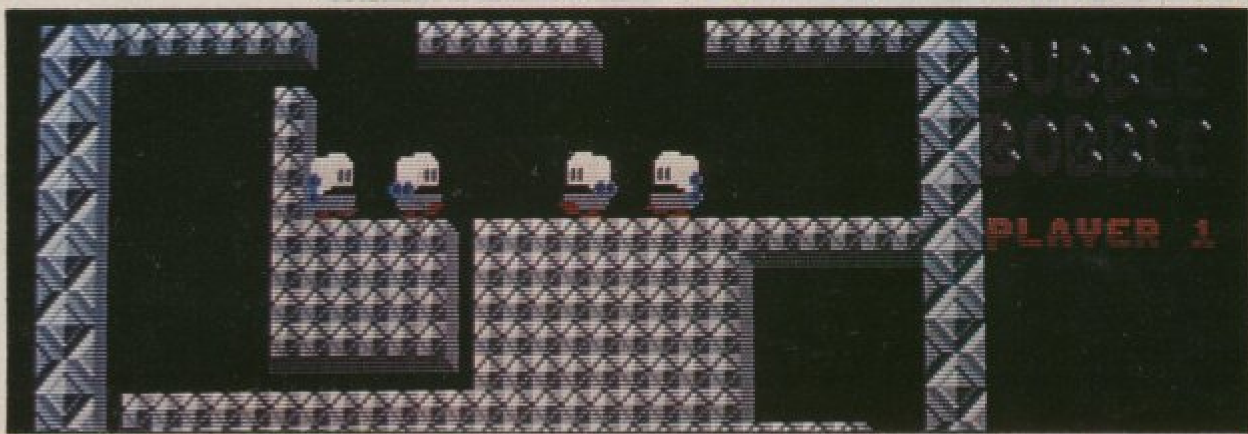
"Undoubtedly, Bubble Bobble **ranks high amongst the arcade conversions available for home machines."**





ATARI ST: promises to be the best version





COMMODORE 64: bubble-blowing Brontosaures Bob and Bub go bully bashing

USEFUL OBJECTS

Collect the objects as they appear to activate special features . . .
Blue Umbrella advances Bub and Bob by three screens.
Yellow Umbrella advances five screens.
Purple Umbrella advances seven screens.
Training Shoe allows the wearer to move faster
Studded Necklace releases a glowing ball which bounces around screen, killing all bullies.
Yellow Sweets impart extra firepower – 'Bubble Up'.
Purple Sweets increase the distance of shot – get both the Yellow and Purple sweets for 'Super Bubble Up'.
Teapots usually set off a 'smart bomb' which kills all bullies on screen, or occasionally they provide 'Super Bubble Up'.
Blue Crucifix fills the screen with water, drowning all bullies in the process.
Red Crucifix either fires a large bolt of lightning – divine retribution – or endows the collector with the ability to shoot fireballs.
Glowing Heart stuns all bullies, allowing Bub and Bob to run around and biff them.
Potions rarely appear – but when they do, collect them to fill the screen with musical notes, flowers or fruit. Bub and Bob can then run around the screen, competing against each other to collect the most bonus points.
Door – the entrance to the Secret Room only appears on level 21. Rumour has it that the only way to get the door to appear is to collect all the unusual items which appear on previous screens.

BUBBLES

Don't just blow them – burst these as well . . .
Water Bubbles release a powerful flow of water when burst.
Fire Bubbles drop fire when burst which stuns Bub or Bob but kills the bullies.
Lightning Bubbles shoot small bolts of lightning across the screen when burst.
Red Glowing Bubbles are very rare – unsurprising, as they provide a full complement of lives.
E, **X**, **T**, **E**, **N**, and **D** Bubbles – collect the set for an extra life.

A FEW HELPFUL HINTS

Don't dispose of all bullies immediately – wait for high-point goodies or extras to appear.
Screen 1: Wait for and collect the high-point goodies, then box up the bullies and burst them together – a giant cake should fall along with a few smaller cakes.
Screen 2: High-point goodies appear at the bottom of the screen.
Screen 3: Useful objects appear at the top right of the screen.
Screen 4: Useful objects appear at the bottom left and bottom right of the screen.
Screen 5: Useful objects appear on the bottom centre platform.
Screen 6: Stay at top of the screen and wait for goodies.
Screen 7: Useful objects appear at the top left of the screen.
Screen 8: Useful objects also appear at the top left of this screen.
Screen 9: High-point goodies appear at the top right and top left of the screen.
Screen 10: Useful objects appear at the top right of the screen.
Screen 11: Fall through the floor to appear at the top of the screen where useful objects appear.
Screen 12: Stay at top of the screen to collect objects.
Screen 13: Stay at top of the screen and burst water bubbles to dispose of the Blubbas inside the heart.
Screen 14: A Blue Crucifix usually appears at the back end of the Blubba platform arrangement.
Screen 15: Blow lots of bubbles, and when bubbles touch water bubbles, burst them to release water and wash away bullies at top. Do it quickly, and fall through to top of screen to collect goodies.
Screen 18: A potion usually appears at the top right of the screen.
Screen 19: A potion also appears at the top right of this screen.
Screen 20: Burst the water bubbles to get washed to the top of screen via the otherwise inaccessable holes at the bottom.
Screen 21: The exit to the hidden level appears top left . . . providing you collected all the right objects on the previous levels!

POWER EXTREME?

CENTURIONS
Ariolasoft/Reaktor

You don't get Gaz Top doing the introductions, but the next best thing might be Tony Crowther . . . Along with Ross Goodley, Tony was responsible for designing the computer version of *Centurions*, the cult cartoon series that features on ITV's *Get Fresh*. Tony was also responsible for **Ariolasoft**'s *Challenge Of The Gobots*, while his earlier work includes such popular and playable games as *Loco*, *Suicide Express* and *Gryphon*.

The Centurions are basically a team of clean living men, aided and abetted by a girl who takes care of mission control, Skybolt, while the boys are out fighting the evil Doc Terror. Doc and his minions are always trying to destroy the world, and it's up to the Centurions with their exoskeletons and bolt-on systems to defeat the forces of evil. 'Power Extreme' is the cry, as equipment is beamed down from their space base. Bolt-on goodies can turn a Centurion into a human helicopter gunship, combat submarine or jet fighter . . .

The game features three multi-directional scrolling levels, with maze-like scenery to negotiate. To move between levels you have to find keys that have been hidden on islands in the middle of air, sea or land. Starting off as a droid, touching one of three pads (Air, Sea, and Land) allows you to change into one of the three Centurions: Ace, Max or Jake. A Centurion specialises in one of the three types of terrain and is capable of collecting keys from areas in which he specialise – although visually, the difference between the three heroes is virtually unnoticeable.

ASSAULT PACK

An assault pack is left behind when enough evil minions are shot, and collecting it allows one of nine extra weapons to be bolted on and used. Cases containing a deadly chemical are also scattered about the landscape and are collected by walking into them – in some cases, more than once. If the cases are not picked up, Doc Terror will get hold of them and use the contents to destroy the world.

A second player can join the action at any time and work with Player One as a team – making the Centurions doubly efficient (though just because one of the Good Guys can fly, don't expect him to be able to travel over water . . .).

The image of Doc Terror makes an occasional appearance and scares the Centurion enough to turn him back into the droid – so it's back to the pads to change back into an exoskeletoned superhero before resuming the search for keys.

RELEVANCE

Centurions is not very well structured and bears little relevance to the television series – other than the names used in the scenario. As a shoot 'em up it fails to entertain owing to the slow and monotonous pace, and it certainly can't be categorised into any other type of genre as there isn't enough strategy or adventuring in the gameplay.

This is really a maze game with a few attractive frills. Running backwards and forwards to change from land to sea to air in order to get the keys is tedious to say the least – very little else happens in between. Even the extra weaponry makes very little difference to what is essentially an uninspired concept.



COMMODORE 64

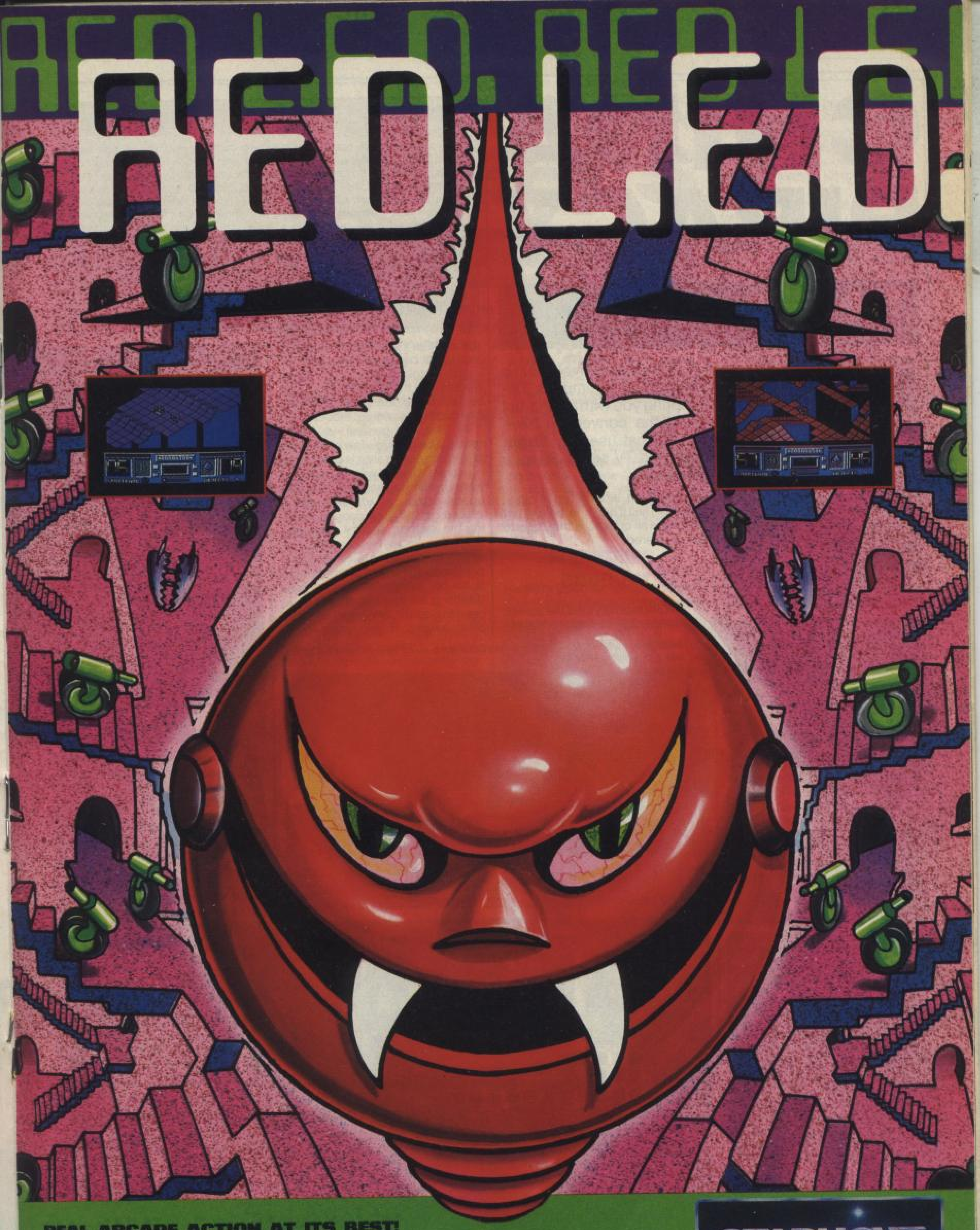
AMSTRAD CPC
Cassette: £9.99
Diskette: £14.99
SPECTRUM 48/128
Cassette: £8.99
Though Ross Goodley, programmer of the Amstrad Challenge Of The Gobots, **had finished writing the Amstrad version, we did not receive a copy in time for inclusion in this review. The Spectrum version (being written anonymously according to the inlay) isn't far behind either. So . . . see next month's Version Updates for details.**

COMMODORE 64/ 128
Cassette: £9.99
Diskette: £12.99
Centurions **looks very dated, more so when compared with more recent releases for the Commodore 64. The gameplay is far from original and exciting, and the graphics, music and sound effects are uninteresting. Whatever Tony Crowther had all those years ago, he seems to be lacking now.**
OVERALL 41%

COMMODORE 64: a Centurion goes in search of keys . . . and gets hassled for his troubles

"Centurions **is not very well structured and bears little relevance to the television series – other than the names used in the scenario."**





REAL ARCADE ACTION AT ITS BEST!

The year is 2379: Earth's vast resources are finally running out (again!). You must bridge the path to the much needed matter supplies, using three ZMX all-purpose battle-droids to link up the vital cosmic-interface grid.

SPECIAL FEATURES:

- Full 3D smooth scrolling action
- 37 different landscapes
- Bonus levels, teleport pads and enemy generators
- Graphics by Pete James
- Sound FX by Tony Crowther.

STARLIGHT SOFTWARE

C64/128 cass £9.99 C64/128 disk £12.99 AMSTRAD cass £9.99 AMSTRAD disk £14.99 SPECTRUM £8.99

CHINA PIRACY

TAI-PAN
Ocean

Another blockbusting book from **James Clavell** makes its debut on the home computer. This time it's *Tai-Pan* and **Ocean** who are tempting you with an oriental adventure. The team behind the conversion have taken a very different approach to that used by **Virgin** about a year ago, when the book and TV series *Shogun* became a flip-screen arcade adventure.

Journeying back to the mid-nineteenth century you become Dirk Struan, a pirate and smuggler who's patch is the stormy China seas . . . Make that a penniless pirate and smuggler.

The ultimate goal of the game is to become Tai-pan, the supreme leader and Merchant Prince. Canton town is the starting point, and the first objective is to seek out a kindly soul who will lend you a few thousand. Once a loan has been secured, the handout enables a ship to be purchased, together with a crew, armaments and cargo which may shipped to another town and sold, hopefully for a profit.

A hundred years ago there were no friendly government agencies to help the unemployed in China – the start loan comes with strings attached. Should you fail to make enough money to repay your benefactor within the allotted time, it's game over as you lose your head! A successful first voyage should set you on the path to undreamed of riches. Providing thieves, pirates and unfriendly weather can be overcome.

LUCRATIVE

Several approaches may be taken by the would-be upwardly mobile hero. One ploy is to abide by the law at all times, and leave the press ganging and pirating to the scum. But then the occasional dabble in the naughty side of life, with a quick smuggle here and there, does prove lucrative. Clearly, boarding and looting passing ships or blowing them out of the water, recruiting men against their will and dealing in contraband are the most attractive (and accurate) ways of making it to the top in the China Sea of the 19th century.

No matter what your moral stance on matters piratical, the day-to-day problems of running a successful trading business still have to be attended to. Decisions abound: which ships to buy, how to man them, what cargo to carry, where to sell it and how best to get there are all questions that have to be answered.

INDOORS

While Dirk is on dry land the screen shows the streets and buildings of the town he's visiting. Some buildings can be entered and once inside cargo, passers by, other traders and the law can be bought and sold. The odd useful item may be found lying around indoors.

At sea, in general voyaging mode, a bird's eye-view of the ship and surrounding area is presented on screen. The viewpoint changes when battle begins, depicting the enemy from a vantage point placed behind your cannon. Aiming the weapon, careful consideration needs to be given as to where to place shots if the booty contained in the hold of your target is to be salvaged. Successfully disabling another ship allows your crew to board it, and intimidate the other sailors. If you spare their worthless hides, they tend to join you, handing over their current and future profits to your tender care.

Activities, including buying and selling when in port or reading the map and steering when at sea are controlled via a panel of icons ranged along the bottom of the screen.

ATARI ST
Diskette: £19.95
The cartoon-style graphics depicting the different characters are good, although the animation is poor and the town backdrops are rather flat. When there are more than three people moving on screen at any one time the action is slowed down to a crawl which can become very frustrating. Setting sail is graphically impressive, but control of the vessel is tough – the instructions for steering are obscure and it seems a little too easy to end up going around in circles. Selecting the icons below the main play area is slightly awkward, as the hook used has to be to the right of a chosen square to select the required action. Tai-Pan is a fairly involved game, and there's a lot to see and do – but what lets this version down is playability, something which the Spectrum version has aplenty.
OVERALL 61%



COMMODORE 64: outside a restaurant, just the place to top up on a noodle nosh

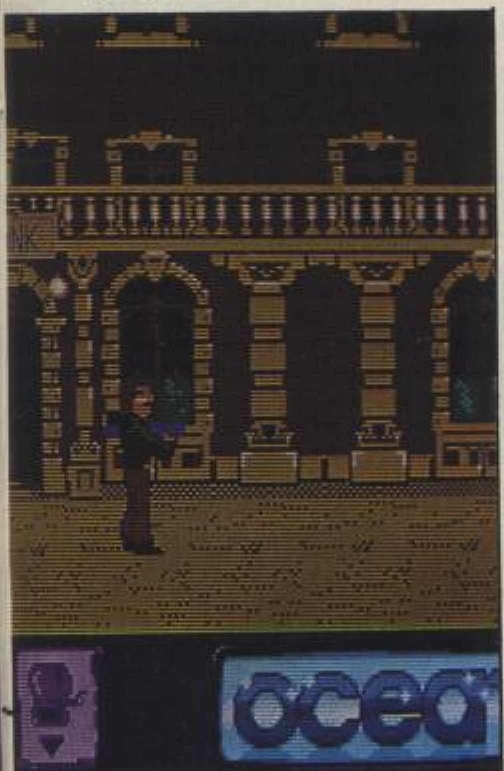


SPECTRUM 128: outside a house of ill repute



COMMODORE 64
Cassette: £8.95
Diskette: £12.95
AMSTRAD CPC
Cassette: £8.95
Diskette: £14.95
As is the case with the Spectrum 48K, the Commodore 64 and Amstrad versions will be multi-load on both disk and tape – and they should be along fairly soon.

ATARI ST: detailed graphics and gameplay but not much playability



SPECTRUM 48/128
Cassette: £7.95
Oriental style backdrops, fried rice music and little people scurrying about all lend a certain instant appeal to this trading game. Surprisingly, while the ST version is a lot prettier, it's nowhere near as fast and playable as this version. No knowledge of the Clavell novel is required to reach the ultimate goal of Tai-Pan, a task which is admirably aided by the simplistic yes/no and icon-driven options. The variety of ways in which you can play adds to the game's depth, and interaction with other characters maintains interest. If you fancy a quick plunder without too much discomfort then Tai-pan could be what you've been waiting for. We haven't yet played a 48K version, which is going to be multi-load – so check out next month's Version Updates for any further details.
OVERALL 77%

"Tai-Pan **is a fairly involved game, and there's a lot to see and do . . . "**

WHEELS WITHIN WHEELS

πr^2
Mind Games/Argus Press Software

Mancunian programming team Binary Design **have been a relatively silent but deadly force behind dozens of releases, including *Max Headroom* and *Glider Rider* for Argus Press Software.** They've achieved a slightly higher profile in the world of budget games with *180*, *Zub* and *Amaurote*, amongst others, on **Mastertronic**'s **MAD** label.

πr^2 is more involved than previous Binary Design concepts and requires geometric formulae to be completed. This isn't as tedious as it might sound though: it's not educational software and you don't actually have to calculate anything. No, instead the formulae are split into three parts which have been 'forgotten', and lost within a mechanical representation of the workings of the mind.

A formula is briefly shown on screen before play begins, just to show the order in which its components should be assembled. Controlling a small bubble, you enter the levels of the mind, represented by a series of interlinked spinning wheels, some of which contain thoughts at their hub. The quest involves piloting a bubble through the mechanical mind-world in search of the the sections of a forgotten formula.

MIND WINDOW

A window shows a small segment of the mind you're exploring and contains a few rotating wheels that touch one another. Movement is achieved rapidly by travelling with the wheels, or more slowly if you choose to move against the rotation. Where the wheels touch, you can leap between them – but it's advisable to consider such moves carefully as the window doesn't reveal what lies ahead in the next section of the mind.

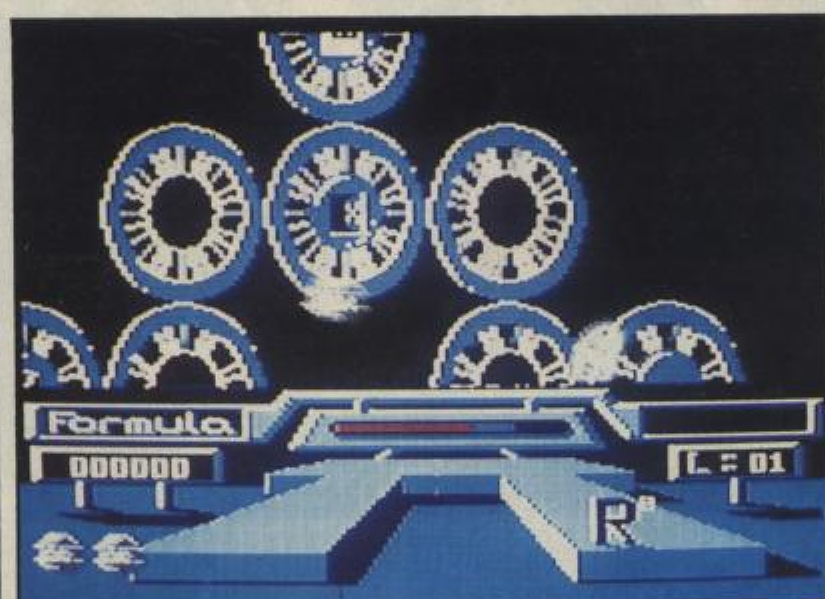
Three types of Stray Thought bubble roam through the network, draining energy whenever they come into contact with your questing bubble – some simply follow the rotation of a wheel, others roam aimlessly from wheel to wheel and some home in on your presence.

MEMORIES

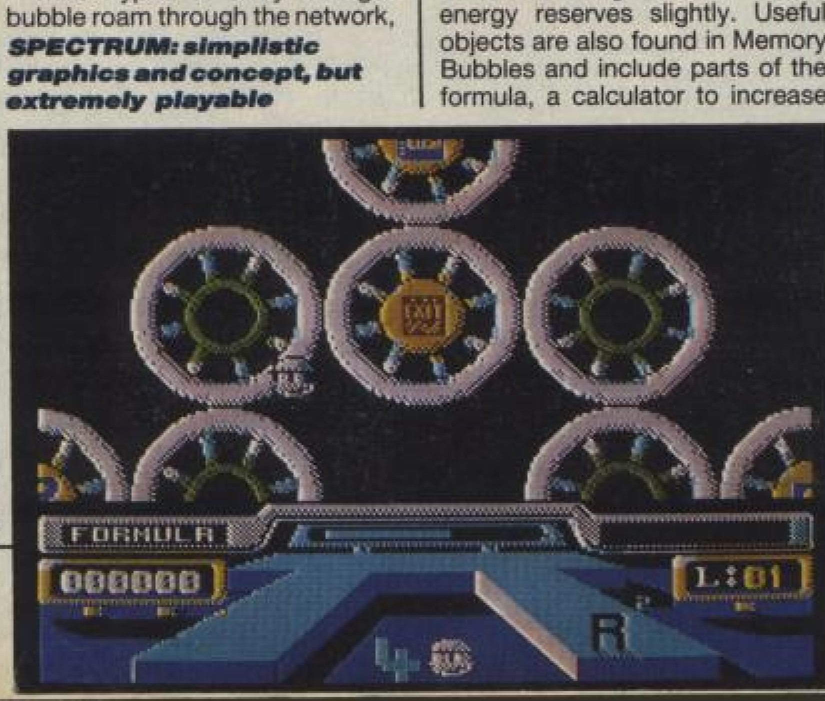
Memory Bubbles are found in the hub of some wheels, and may contain Fond or Abstract Memories which are released as soon as the surrounding wheel is touched. Releasing such memories has an adverse effect on your bubble, either stunning it or reducing energy reserves slightly. Useful objects are also found in Memory Bubbles and include parts of the formula, a calculator to increase speed, a book to boost energy, or a hammer used to stun energy-draining Stray Thoughts. Bubbles that contain objects rather than thoughts can only be burst if you stay on the wheel for a whole revolution.

Collecting the three parts of the formula in the right order allows you to exit to the next, more difficult level. The formulae don't get any more complex, but the wheel arrangements get larger and Stray Thoughts make more frequent appearances.

A fairly simple concept lies behind πr^2, but it's very addictive to play. At times you have to concentrate so hard your head hurts . . . and if you don't concentrate on what you're doing, it's very easy to become disorientated and end up dead.



COMMODORE 64: a lot more playable than its predecessor

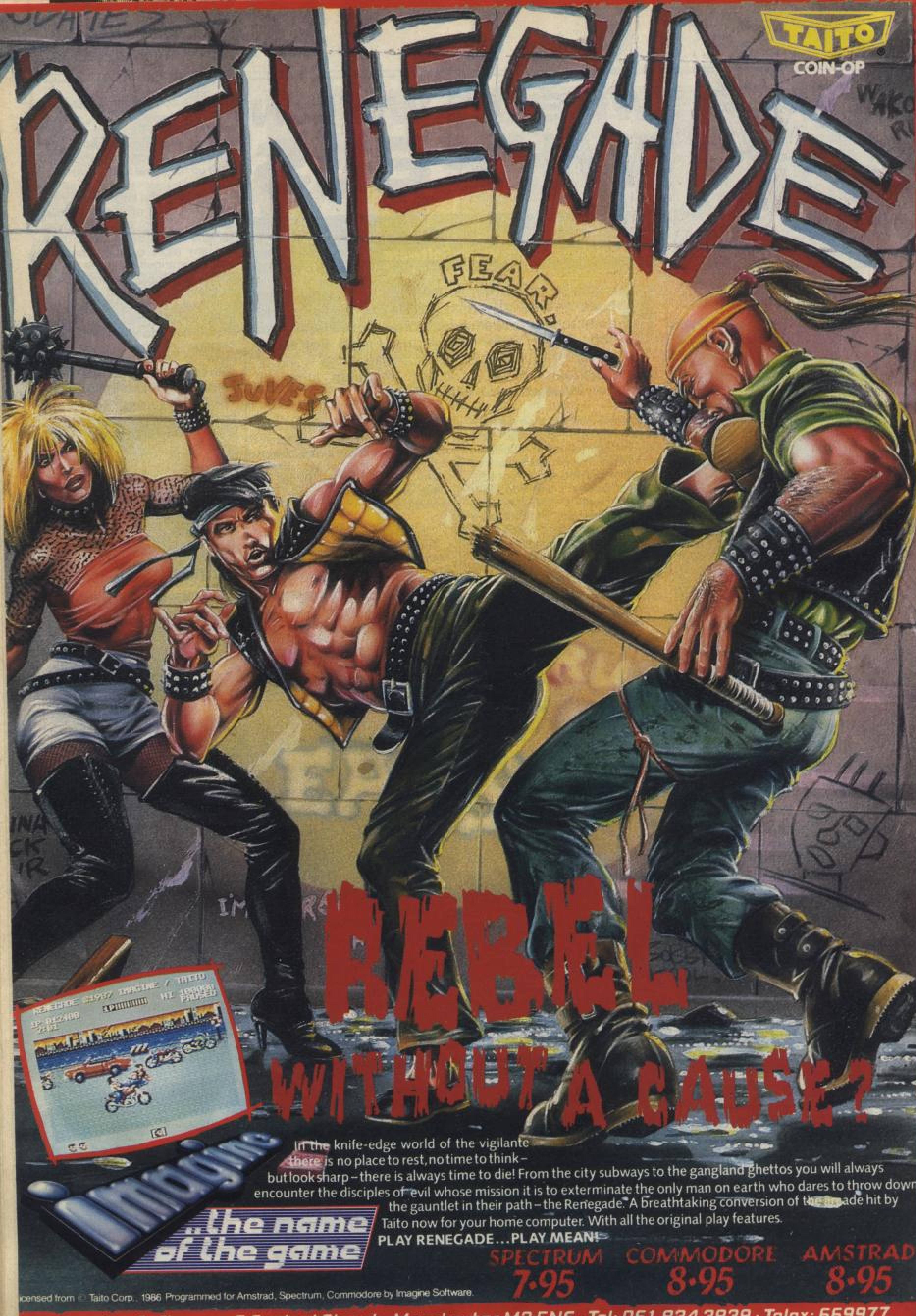


SPECTRUM: simplistic graphics and concept, but extremely playable

COMMODORE 64/128
Cassette: £8.95
Diskette: £12.95
Sadly this doesn't look as sharp or play quite as well as its Spectrum counterpart – but the unusual concept is strong enough to make it worthwhile.
OVERALL 79%

SPECTRUM 48/128
Cassette: £7.95
The best of the two versions, featuring simplistic but clear and effective graphics, unsuitable but passable jingles and plenty of playability. It provides a welcome change from dealing death or leaping from platform to platform collecting objects, and the action is compulsive and more often than not frenetic.
OVERALL 85%

" . . . very addictive to play. At times you have to concentrate so hard your head hurts . . . "


TAITO
COIN-OP
RENEGADE
FEAR
REBEL
WITHOUT A CAUSE?
In the knife-edge world of the vigilante there is no place to rest, no time to think – but look sharp – there is always time to die! From the city subways to the gangland ghettos you will always encounter the disciples of evil whose mission it is to exterminate the only man on earth who dares to throw down the gauntlet in their path – the Renegade. A breathtaking conversion of the arcade hit by Taito now for your home computer. With all the original play features.
PLAY RENEGADE...PLAY MEAN!
imagine
..the name of the game
SPECTRUM 7·95
COMMODORE 8·95
AMSTRAD 8·95
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ROBOTIC THREESOME

HYBRID
Ariolasoft/Starlight

Ariolasoft have recently changed direction, moving towards being a publishing house rather than a software label. They are setting up teams of programmers which work fairly independently, writing games for labels which **Ariolasoft** then publishes. **Reaktor** and **Viz Design** are **Starlight**'s stablemates.

The inhabitants of an inter-galactic jail have freed themselves from suspended animation and now intend to destroy Earth. Taking control of the three half-sentient, half-droid units which form the fighting machine Hybrid – the Brain, the Xylon and the Robot – the objective is to eradicate the alien life forms once and for all. Each unit has its own characteristics. For example the Robot is the toughest and is best used to clear a path for the other two, while Xylon can activate switches to create bridges between sections of the jail, and the physically weaker Brain, being that bit smarter, is able to use the transport system to reach otherwise inaccessible areas of the complex.

The jail is well-defended, containing automatic gun emplacements, mines, beacons and aggressive guardians. Apart from avoiding enemy gunfire and aliens, the overall aim is to find a point where all three units can join up to form one superior entity which may be transported to an alien cell to carry out a termination. Perform this exercise four times and the game is complete.

Extra power units and ammunition can be picked up along the way, and the Hybrid's component parts each have separate energy reserves. Should power run out, a droid is immobilised, although such emergencies can be dealt with by syphoning power from one unit to another. One annoying aspect to the gameplay is that there's no point in continuing if one of your units expires – all three components have to be merged before dealing death to one of the four target aliens.

SPECTRUM 48/128
Cassette: £8.99
Hybrid is perhaps utilising a bit of a tired old scenario, nonetheless its implementation is quite nice. A strange title theme creates the initial ambience as you make your gameplay option choices. The screen display is slightly confusing with the play area covering a relatively small section of the screen, but the process of moving the three components of the Hybrid is slick enough. A desire to persevere with the game and explore deeper into the cells is kindled by the relative ease with which the earlier sections can be completed.
OVERALL 63%

COMMODORE 64/128
Cassette: £9.99
Diskette: £12.99
Not available as this review was written, but due any day now . . .

AMSTRAD CPC
Cassette: £9.99
Diskette: £14.99
The music is best switched off, unless played through exterior audio equipment, as it grates somewhat and adds nothing to the game. The colours used are bland, although the task of eliminating the malevolent aliens is easier and marginally more enjoyable than on the Spectrum version.
OVERALL 65%

"A desire to persevere with the game and explore deeper into the cells is kindled by the relative ease with which the earlier sections can be completed."

AMSTRAD: less colour than the Spectrum version, but marginally more playable





SPECTRUM: patrolling over the blue scrolling landscape, the scanner points out that one sector still contains three ground installations

MISSION UNINSPIRING

LAST MISSION
US Gold

With so many arcade conversions in the pipeline, **US Gold** have certainly got a busy time ahead of them. But not half as busy as **Probe Software**, who appear to have ceased publishing games in their own right to concentrate on converting arcade games for other companies – amongst them **Sega**'s *Out Run*. An original game, Trantor: The Last Stormtrooper, is also being produced by **Probe** for **US Gold**'s new software label **GO!**.

Data East's *Last Mission* is one of Probe's more recent arcade conversions, and is a straightforward multi-directional scrolling shoot 'em up in which you fly around killing aliens in between destroying ground installations. Firepower is initially limited to a simple laser, but can be improved by collecting the letters revealed when a ground installation is destroyed.

While some letters simply increase firepower, others allow one of a trio of weapons to be selected, and ultimately, upgraded. Extra weaponry is merely temporary however, and firepower reverts to the laser when the supply is exhausted.

SCANNER

A grid of four by four boxes at the bottom of the screen acts as a scanner, revealing the number of installations that remain in each sector. A Mothership makes itself known when all the installations have been destroyed, and once that has been killed off a large square alien construction mysteriously appears, suspended in mid-air. Destroying the eight links which appear to hold it in place changes the scenery and the next level is accessed.

Last Mission offers nothing significantly new, and isn't particularly exciting to play – but then, the original arcade game isn't up to much either. It isn't overly taxing to get to grips with, but even so the minimal instructions are unhelpful and only explain movement and option keys. Quite simply, an unremarkable addition to the overflowing range of shoot 'em ups.

COMMODORE 64
Cassette: £9.99
Diskette: £14.99
Considering what the 64 is capable of, this is the worst of the two versions. Presentation is poor in many ways – too many annoying delays interfere with play, while the keyboard has to be used to activate weapons and smart bombs. This is all very well when using keys to control the ship, but a pain when using a joystick. Last Mission **lacks stimulating action, and the bland, undetailed aliens and uninspired backdrops do little to impress.**
OVERALL 45%

SPECTRUM 48/128
Cassette: £8.99
In complete contrast to the Commodore 64 version, this is ridiculously easy and tedious as opposed to frustrating. To make matters worse (or better, depending on how you look at it) there are six lives to play with, and extra lives are awarded frequently. The scenery shimmers badly as the screen scrolls horizontally which proves quite off-putting.
OVERALL 55%

" . . . offers nothing significantly new, and isn't particularly exciting to play . . . "

CONTINENTAL CAPER

L'AFFAIRE
Infogrames

French software house Infogrames has been making a name for itself with a slightly quirky range of software that spans adventures, interactive fiction and shoot em ups, including *Prohibition* and *TNT*. Any day now, a new detective adventure, *L'Affaire*, should be arriving for the Atari ST and PC compatibles – originally written for the MSX2, conversions are well in hand.

Currently only available as part of a packaging deal with MSX2 hardware, *L'Affaire* was intended to be an adventure-movie controlled via the joystick – and for the most part the game has the feel of a movie, on account of the mood and atmosphere created by the excellent sound and graphics. As with all movies, however, there are high and low spots . . .

The scenario features a central character, Raymond Pardon, who has just been released from six-year stretch in prison after serving a sentence for a crime that he did not commit.

Understandably, Raymond is not entirely happy about losing a large chunk of his life as a result of being framed, and his spell in prison provided plenty of opportunity to plot revenge. And Raymond has become thoroughly embittered: two days before being arrested he fell in love with a girl, who deserted him the moment she was told he was a criminal.

REVENGE

Revenge is the driving force behind the hero, and he will only be satisfied when the identity of the person who set him up has been discovered. At the trial three people gave evidence that led to a conviction, three people drawn from three different European countries. Raymond saw the witnesses for a few moments only, and begins his quest for revenge by seeking them out.

To solve the mystery, seven European cities have to be visited, people interviewed, locations searched and clues discovered and acted upon. All these actions may be performed by moving a cursor around the screen and clicking on icons and boxes. In use, the control system easy to operate but the slow-scrolling text messages can hinder fluidity of play.

WINDOWS

A large window that dominates the screen reveals a general view of the current location, elements of which can be examined in greater detail by moving the cursor over them and zooming in for a closer look. Objects and useful items are there to be discovered and people can be approached with a view to gleaning useful information. To the right, another window may be toggled between a map of Europe, the inventory, or the identity currently assumed by Raymond.

In order to achieve his goal, Raymond needs to assume disguises and play a wily game – some people will only offer information or help in return for a bribe, for instance. Changing identity or travelling between cities is effected by toggling the appropriate icons, and interviewees may be selected from the main window and brought into conversation. Once Raymond has arrived at a city he can travel around locations by selecting icons that appear below the main view – and he gets to visit many strange places and meet some strange people on his quest for information.

If this computer-movie was presented to the Board of Censors it certainly wouldn't be awarded a 'U' certificate . . .

ATARI ST
Diskette £19.95
Infogrames' **UK representative** David Crossweller informs us that the MSX2 copy he supplied for review is virtually identical to the Atari ST version. And it's hard to disbelieve him, as it does look and sound uncannily like an ST program – so the rating and opinions provided may be taken as applying to the ST. If there are any major discrepancies, you can be sure we'll let you know in the next issue.

AMIGA
Diskette: £ unknown
Infogrames **are looking at producing** L'Affaire **for the Amiga, but have yet to take the final decision as to whether they should go ahead.**

PC
Diskette: £24.95
Once again, the same game is promised, and the only limitation is provided by the graphics facilities of the machine. The better the graphics capabilities of your PC, the prettier the pictures will be . . .

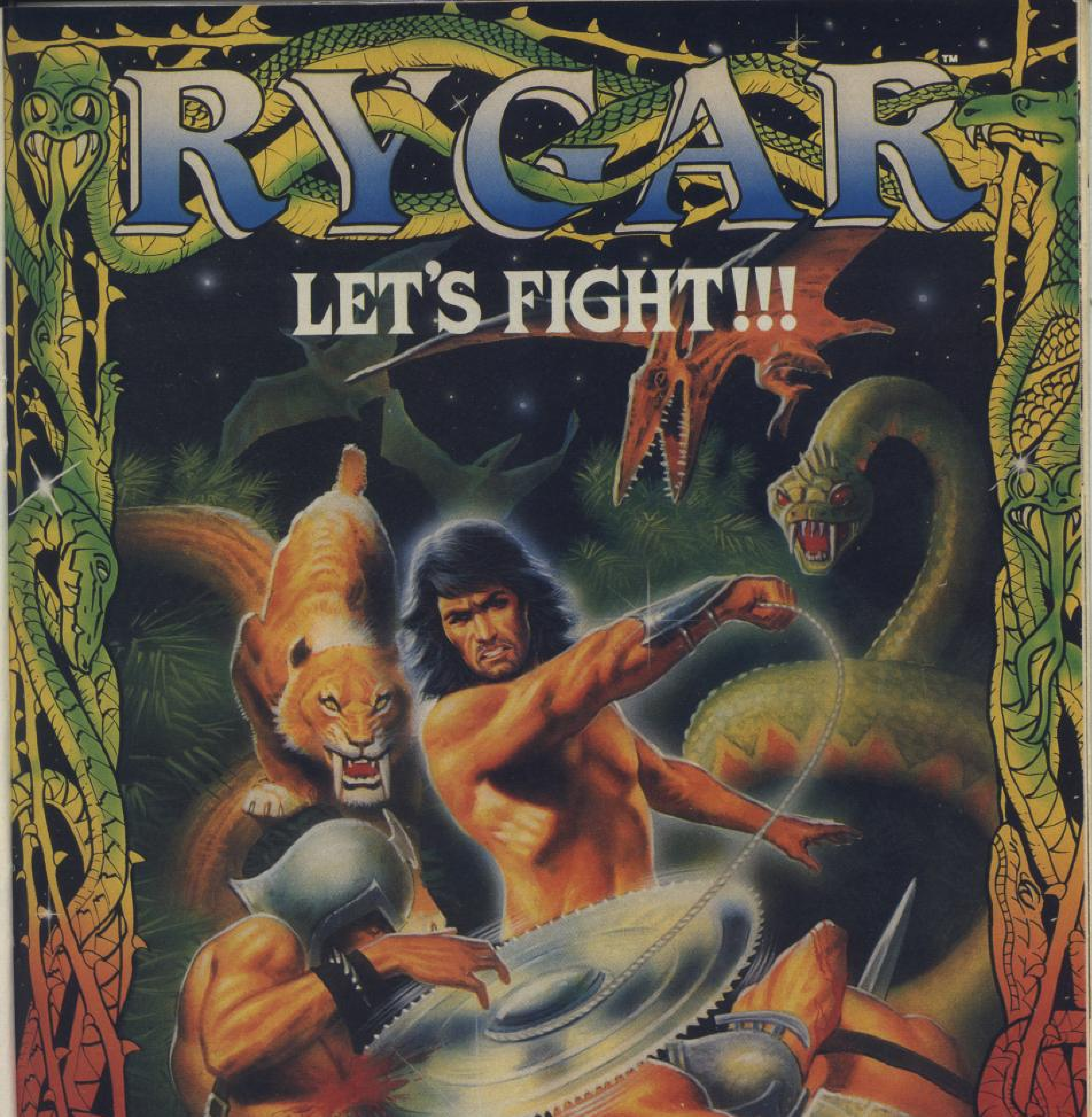
MSX2
Not published separately
Putting aside the small annoyance of the laborious text scrolling and, from the point of view of the younger player, the somewhat risqué meetings with both male and female prostitutes, L'Affaire **is simply lovely. Attractive graphics, moody melodies and ample ambience combine with a tortuous puzzle to provide a challenging and enjoyable game with plenty to investigate. Another excellent detective game from** Infogrames **that is worthy of an audience wider than the world of MSX2.**

OVERALL 82%

" . . . the game has the feel of a movie, on account of the mood and atmosphere created by the excellent sound and graphics . . . "

MSX2: where better to conduct your enquiries than outside a busy café?





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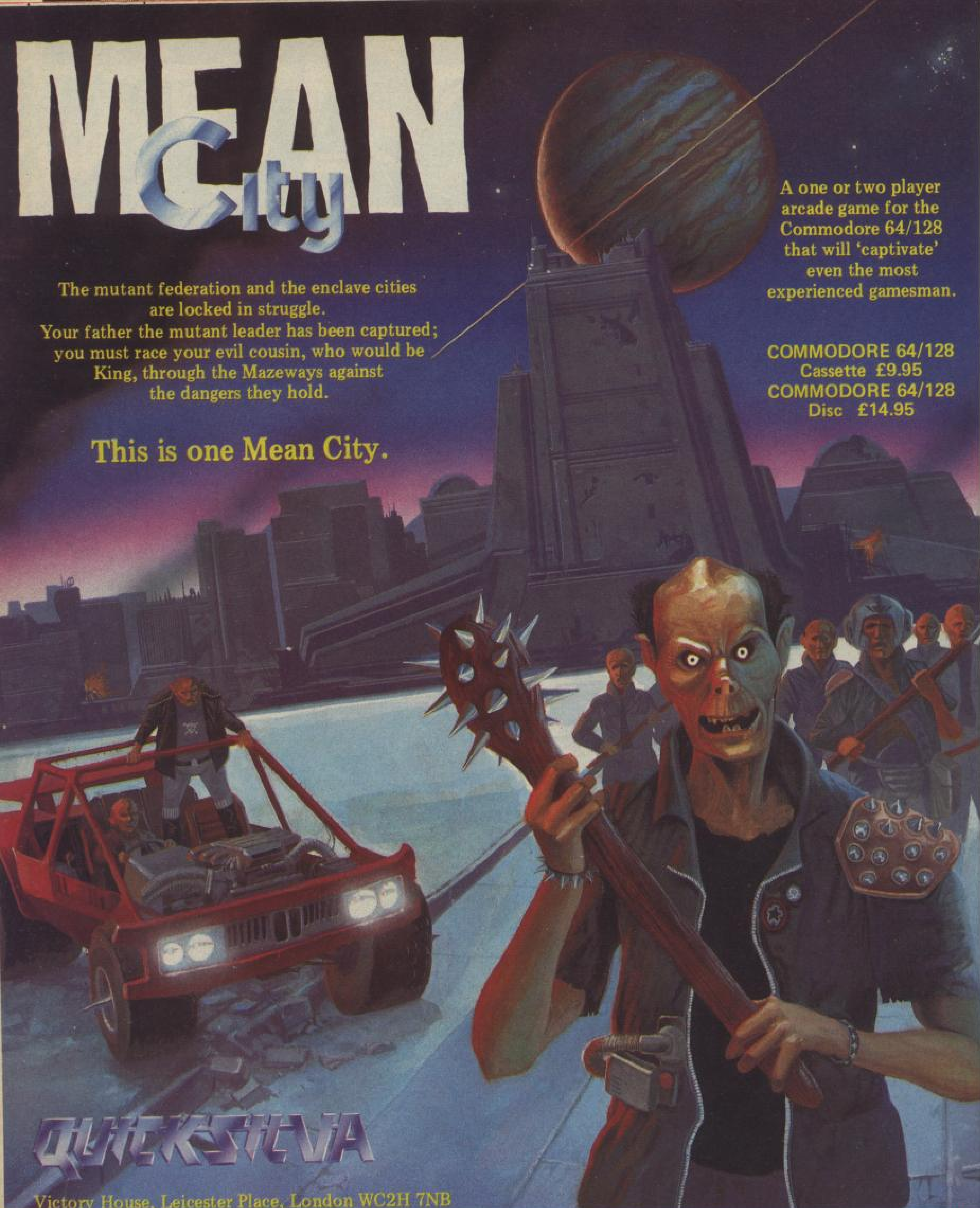
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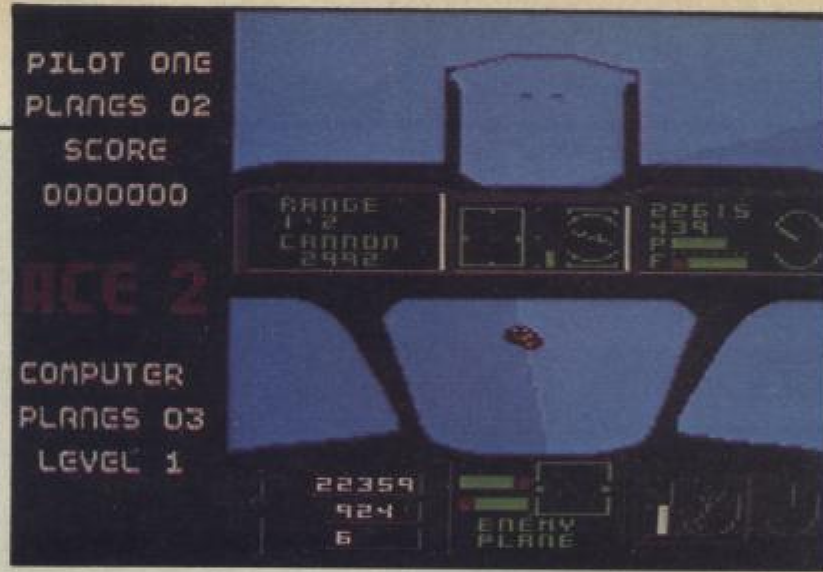
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ANOTHER ACE FROM THE PACK



COMMODORE 64

ACE 2
Cascade

Having made an impact with a compilation of 50 games and a free digital watch over two years ago, **Cascade** surprised many a cynic with the release of their first full-price product – *Air Combat Emulator*. Building on the success of *ACE* across many formats, *Sky Runner* followed at Christmas-time last year, and now **Cascade** have three new imminent releases – a multi-directional scrolling shoot 'em up called *Implosion*, a vector graphic shoot 'em up *Ringworld* and this sequel to their biggest seller . . . entitled *ACE 2*.

Ian Martin, the programmer behind *Sky Runner*, has adopted a different approach in writing *ACE 2* – where *ACE* was most definitely simulation orientated, its sequel is in the shoot 'em up mould, with minimal interaction required to fly.

Billed as 'a head to head flight and combat simulation', *ACE 2* allows one or two players to battle it out in an airborne duel to the death. The number of planes at your disposal is determined before play (between one and 20), along with the type of combat scenario you wish to undertake – either Close Range Dogfight or Full Scale Conflict. A Close Range Dogfight starts in the air, whereas Full Scale Conflict begins at base where both players have the opportunity to arm the planes.

OBNOXIOUS

For the obnoxious pilot with no friends, the computer takes control of the second plane and plays at one of 20 skill levels. Cannon are built-in and 3000 rounds of ammunition are supplied, and two other weapon systems are available. Air-To-Ground and Air-To-Air (Heat-Seeking and Radar-Guided) missiles however, cannot be carried in such vast quantities. The explosive power of the missiles is determined before play, which means it can take more than one hit with a missile to destroy the opposition.

Flares or Chaff pods can be released to confuse a chasing air-to-air missile, although you only have six of each so it's wise to use them sparingly and rely instead on skillful flying. Thoughtfully, there's an option to turn off the Crash Detection so should a trainee pilot hit the ground, the plane doesn't blow up.

SIMPLE

Flight controls are gloriously simple, with the joystick used to manoeuvre the plane and presses of the keyboard to increase or decrease throttle. A map of the area is called up at any time with an appropriate key press, and instantly shows your position relative to the enemy.

On-screen presentation is excellent, with clear, instantly accessible displays, and on the Commodore 64 disk version, the high score table is updated and saved to disk. Documentation is also first class, featuring comprehensive instructions with handy hints and technical details interspersed throughout to good effect. Despite the range of options and skill levels available though, playing against the computer-controlled opponent isn't overly exciting. However, *ACE 2* is an excellent two-player head to head combat game – very fast, very playable, and more often than not, very tense.

COMMODORE 64: Pilot One consults the map of the area



SPECTRUM 48
Cassette: £8.95
SPECTRUM 128
Cassette: £9.95
Both of these Z80 versions are being written in tandem with those for the 6502 machines and should be released this month. As we went to press, neither version was available for review nor were there any details on the 128 version.

PC
Diskette: £19.95
ATARI ST
Diskette: £19.95
Development for both machines is underway with a Christmas release scheduled.

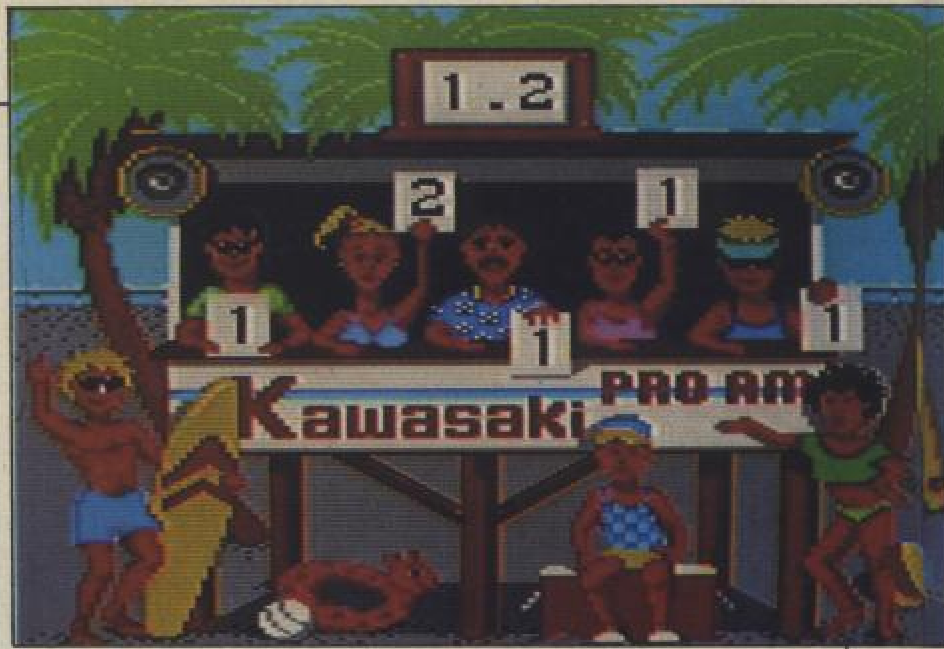
PLUS 4
Cassette: £9.95
Should be identical to the Commodore 64 version, as Cascade were sensible enough to ensure that almost all of the programming routines used were easily transferable. Available now.

COMMODORE 64
Cassette: £9.95
Diskette: £14.95
There are no ground objects to induce the feeling of flight – instead it's the speed at which the plane turns which gets your stomach rolling. Flight simulation purists may not find this comparatively simplistic sequel as attractive a proposition as ACE. But anyone in need of plenty of high speed flying thrills and shooting action won't be disappointed.
OVERALL 83%

" . . . an excellent two-player head to head combat game – very fast, very playable, and more often than not, very tense."

FUN IN THE SUN

CALIFORNIA GAMES
US Gold/Epyx



The detailed graphics, excellent presentation and refined gameplay of *Summer Games* put it head and shoulders above other comparatively crude joystick-waggling sports games. In the following three years, during which time **US Gold** took over their UK distribution, Epyx continued to produce sports simulations in the same innovative vein, constantly bettering each previous release in terms of graphics, sound and depth of gameplay.

Having set new standards, and surpassed all expectations in the process with *Summer Games II*, *Winter Games*, and *World Games*, Epyx can only do the same again with *California Games* – the fifth release in the *Games* series, featuring six new events based on the exploits of the beautiful people who live in America's Golden State.

As is the case with the preceding three titles in the *Games* series, up to eight players can compete in one, some or all six of the events – or you can practice an event to your heart's content. On the Commodore 64 disk version, the high score table that records the best scores or times achieved is saved to disk for posterity.

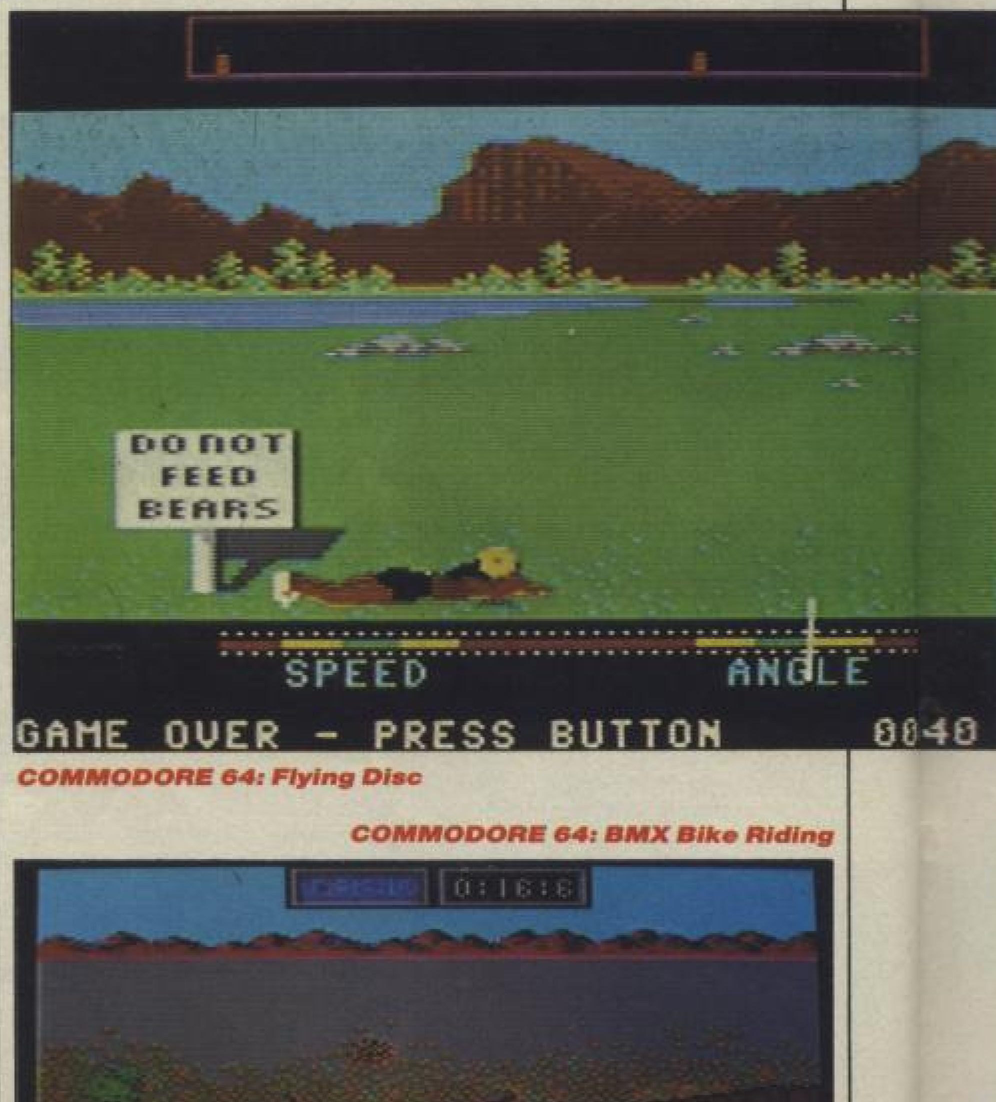
Unlike its predecessors however, *California Games* does not allow players to play for the country of their choice – instead, a choice of nine relevant American sponsors is displayed, including Casio and Kawasaki. US Gold hope to persuade nine UK sponsors to buy space, replacing the names featured on the American version. Another difference is that trophies are awarded after an event – presumably a Californian custom . . .

HALF PIPE SKATEBOARDING

After sweeping the nation in the late seventies, the skateboarding craze has since died down and we don't hear about the sport in Britain. Major competitions are still held in the States though, and this event is based on one part of such a competition. You have one minute and 15 seconds to manoeuvre a skateboard inside a large pipe, performing tricks to earn points. Three different moves are available and all take a bit of getting used to – kick turns and aerial turns are hardest to perform, but the hand plant comes easiest with practice. Repetitive but fun.

FOOT BAG

The Foot Bag didn't make much of an impact in the UK, despite a devoted cult following in the States. Set against the tranquil location beside the sea, points are scored by juggling a psuedo-spherical leather bag with the head and feet. Pressing the fire button at the correct moment hits the bag into the air, and bonus points are earned by performing tricks such as Half Axel, Full Axel, Axel Foley, and Jester. Foot Bag is very playable, requiring a great deal of co-ordination, and has more scope than other events.

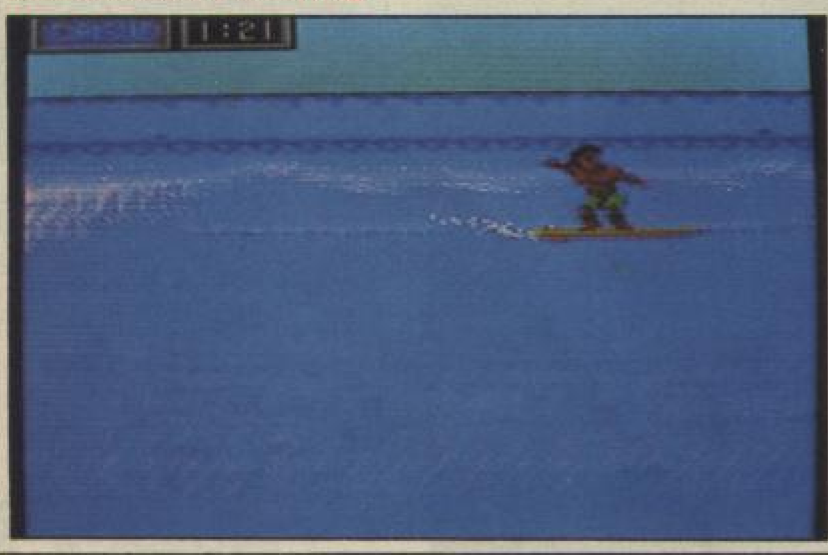


COMMODORE 64: Flying Disc

COMMODORE 64: BMX Bike Riding

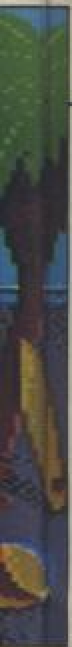


COMMODORE 64: Surfing



SURFING

The aquatic forerunner to the skateboarding craze. The aim is to catch a wave and ride it for one and a half minutes, collecting points for turning and riding underneath the curl of the wave or near the break – wipeout four times and your surfing exploits are over. The surfing judges are even more impressed if you can ride to the top of the wave, clear it, turn and









land without wiping out. This is not the easiest of events to score points in, as it seems to take some pretty radical surfing to impress the computer-controlled judges. Either that, or the computer is biased . . .

ROLLER SKATING

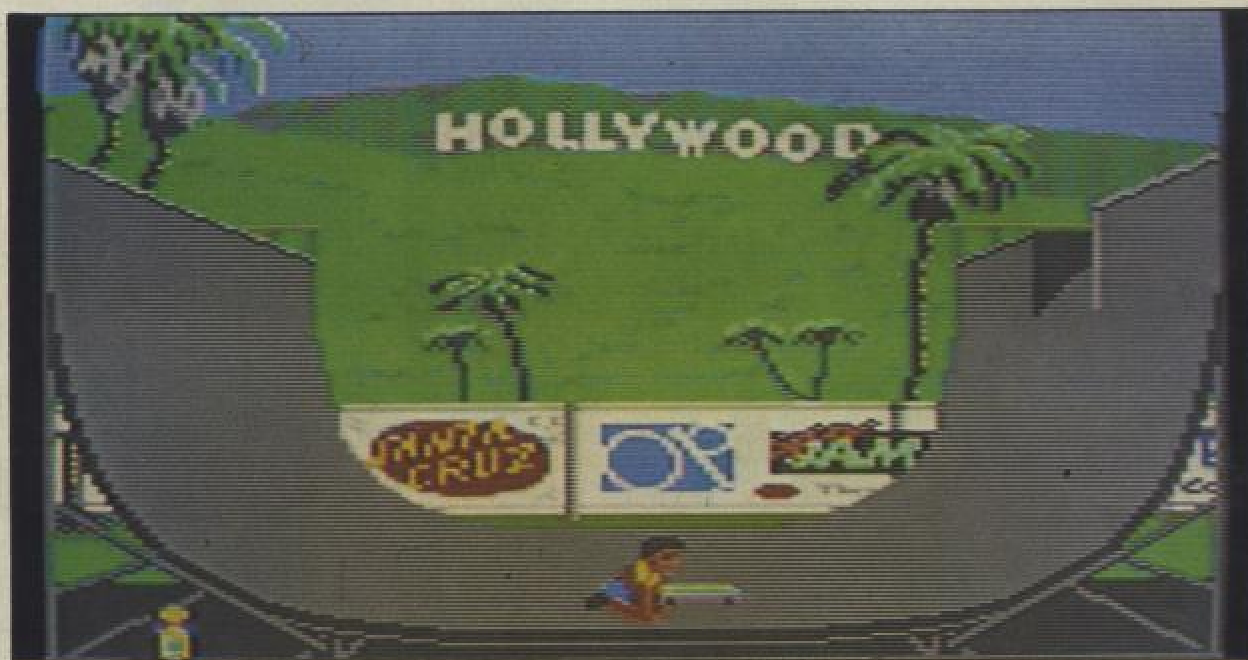
With wheels on your female feet, speed is of the essence as you negotiate a horizontally scrolling beach boardwalk, avoiding obstacles that include cracks and gaps in the pavement, banana skins, beach balls and puddles of water. Performing simple stunts such as ducking and 360 degree spins earns the approval of the judges. Speed, and a commendably authentic skating feel is achieved by sweeping the joystick from top to bottom and vice versa to push off from either leg. The event finishes when the skater has fallen three times – or reaches the finish line.

BMX BIKE RIDING

Pedal power is called for along this horizontally scrolling course set in the California desert. Jumps, bumps, dips, obstacles and comments from the spectators appear at bottom of screen as you pedal madly along, aiming to cover the course as quickly as possible time. There's a two minute time limit and stunts performed en route, such as jumping, backward or forward flips, twisting the bike (a Table Top), and 360 degree turns all earn those magical points. Falling three times brings the race to an end – but a single serious fall on the head is fatal. This is perhaps the most enjoyable event of the six on offer.

FLYING DISC

Rather like the most Californian of picnic games, frisbee, this event requires you to throw a disc through the air to a partner at the opposite end of a playing field. The power and the angle of a throw have to be judged, then your partner moved left or right ready to intercept the disc. Points are scored for the accuracy of throw and catch. Disc throwing is one of the easiest events to play – but the hardest to master.



COMMODORE 64: Half Pipe Skateboarding

IMPRESSIVE

Epyx undoubtedly lead the field with the *Games* series – no-one has yet managed to get close to producing a product of such high quality – with the notable exception of **Anco**'s excellent *Winter Events* and *Summer Events* for the C16. Such quality imitations are indeed flattering . . . and a spoof of the Epyx style is also in the pipeline from Gremlin Graphics in the form of *Alternative Olympics* (further details elsewhere in this issue).

California Games is easily as impressive as its forerunners, with the six events providing plenty of playability and long-term entertainment. The instructions are up to Epyx's usual high standards – informative and they include a few helpful playing tips. Added to this is a beginner's guide to Californian slang, explaining the use of such quaint terminology as 'dude', 'radical' and 'tubular'.

SPECTRUM 48/128
Cassette: £8.99

AMSTRAD
Cassette: £9.99
Diskette: £14.99

AMIGA
Diskette: £24.99
Also due to appear in October, and Amiga owners can be sure of a high quality version – US Gold are importing the Epyx original.

MSX
Cassette: £9.99
Due for release at the beginning of October, California Games is currently being converted to these three Z80 machines by Dublin-based Choice Software, responsible for producing the first class Z80 conversions of World Games. Choice are also working on a disk version for the Spectrum Plus 3, due for release in November along with the MSX version.

COMMODORE 64
Cassette: £9.99 Diskette: £14.99
Though undoubtedly the most polished of the Games series, California Games isn't quite as absorbing as its immediate predecessor World Games. It's a close second in the playability stakes however, and combined with all the neat touches Epyx excel at including, it represents a worthy investment for Games addicts. US Gold are confident that very little will be lost when converting from disk to cassette, although obviously the multi-load is going to be considerably slower and more cumbersome than that used on the disk version.
OVERALL 92%

"California Games is easily as impressive as its forerunners, with the six events providing plenty of playability and long-term entertainment"

AT YOUR SERVICE M'AM

FLUNKY
Piranha

Since the days of *Minder* and *Popeye* for **DK'tronics**, **Don Priestley**'s games for **Piranha** have involved minions. *Trapdoor* was decidedly dogsbody-orientated as, no doubt, *Through The Trapdoor* will be when it subserviantly creeps into the shops.

Don's latest offering *Flunky* also features a servant – a Royal manservant at that. His job is to complete menial tasks within an allotted time whilst not upsetting the residents of the household – the Royal Family. The place of work is no less than Buckingham Palace itself.

This 'solve the puzzle' style of game with its high standard of meaty graphics is becoming **Don Priestley**'s trade mark. In this case Flunky, the footman, moves around the different locations with a definite air of 'you rang m'lady?,' performing his tasks with a certain degree of pride even though some of the allocated jobs are a little obscure.

BOATING

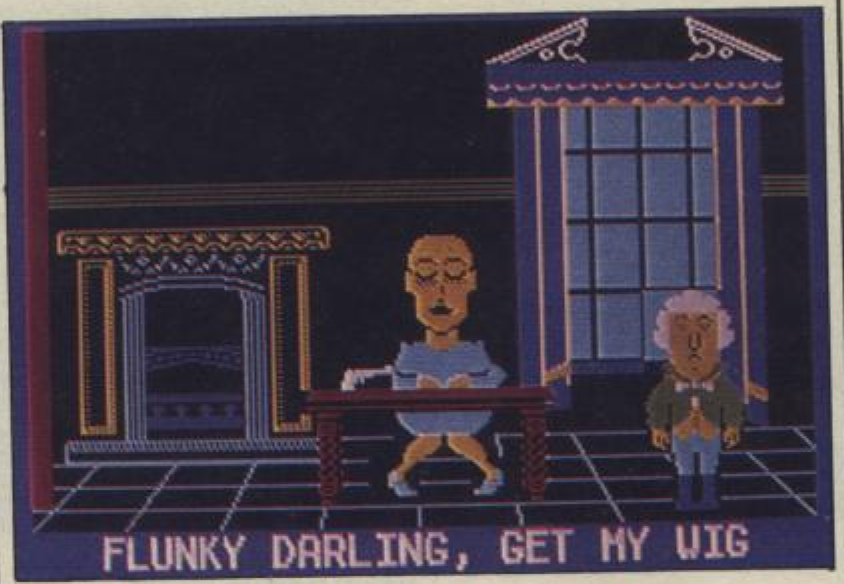
At one point you come across Andrew in the bath who demands that you fetch him a boat to play with. The obvious choice of vessel is the wrong one, and more thought has to go into this problem before a solution is found. However, logical thinking is not recommended if progress is to be made – some of the errands Flunky is expected to perform are unusual to say the least. Finding freckles for Fergie, retrieving Di's wig and collecting Charles' bouncing Polo balls are among this minion's tasks.

Errors are rewarded with a visitation from the Palace guard, who causes your demise unless you can avoid his bullets. Once the task is completed for a member of the family, Flunky is rewarded with an autograph, and when everyone's autograph is in your little red book it's time to meet The Queen and the ultimate challenge . . .

PRACTICE

Options are chosen at the start of play (joystick, redefinable keys, English or Deutsch and so on) by Flunky himself, who presses buttons and pulls bars under your control in the first room. This little exercise also acts as a crash course on how to activate objects encountered later in the game.

There is no music while you work, but the sound effects are perfectly acceptable. The animation, as might be expected from a **Don Priestley** game, is first rate, and plenty of colour is splashed around to please the eye.



SPECTRUM: Di wants her wig, but where will Flunky find it?

SPECTRUM 48/128
Cassette: £9.95
COMMODORE 64
Cassette: £9.95
Diskette: £14.95

Marching around Buckingham Palace doing all the dirty work for Charles and friends may not sound appealing, but with the way the game has been implemented, the scenario soon becomes quite acceptable, enjoyable even! Flunky carries out his orders with hardly the flicker of an eyebrow. The only time he looks hot under the collar is when the Guardsman shoots him for doing something wrong. Movement is quite neat, with a suitable strut to Flunky's gait and several little touches have been included, such as the wiggling of Andy's toes and an owl's watching eyes. The sound effects are apt if not particularly stimulating, although with the number of puzzles to solve and the lack of time in which to crack them, who's got time to listen?

OVERALL 81%

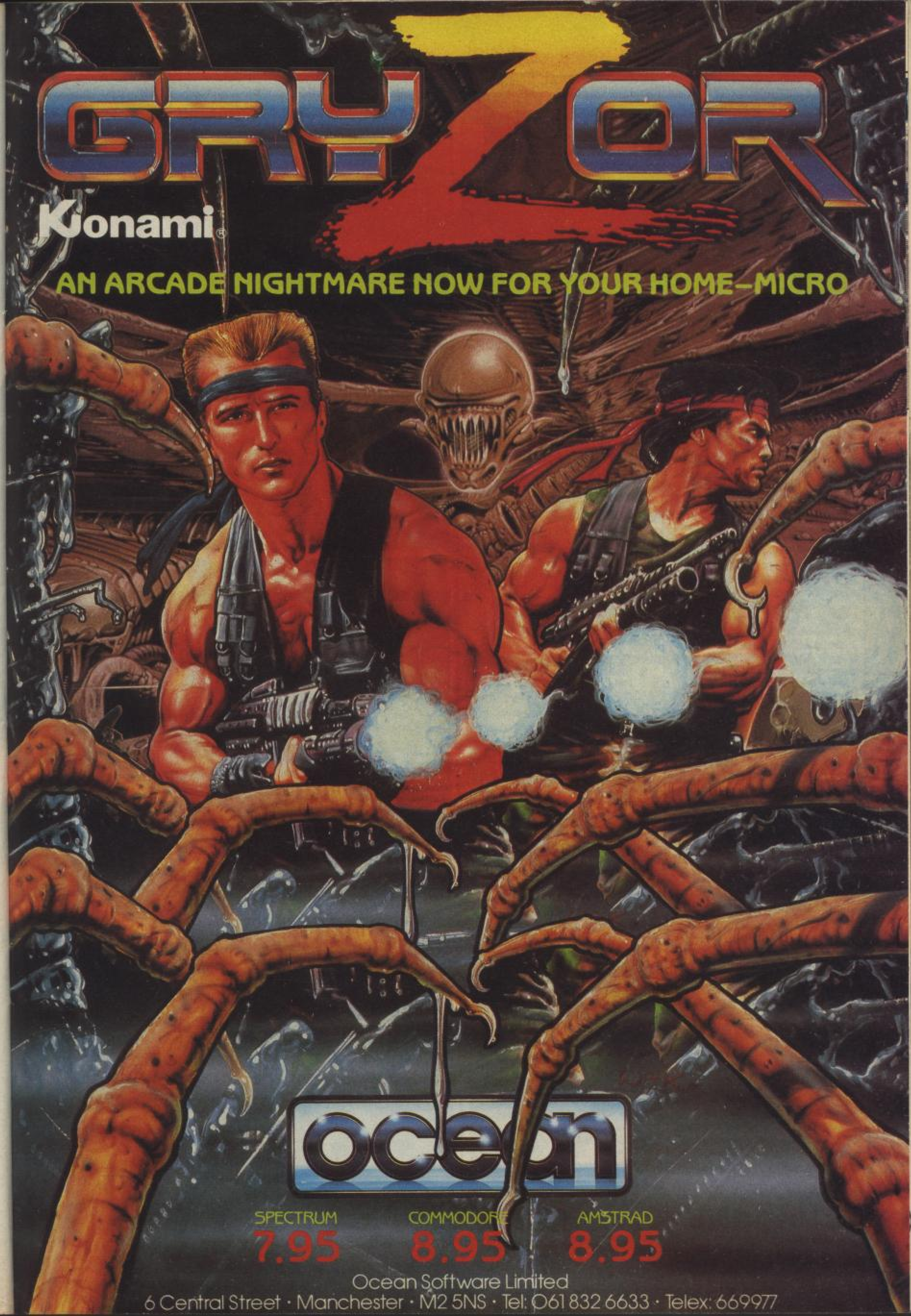
AMSTRAD CPC
Cassette: £9.95
Diskette: £14.95

Trapdoor was competently converted to the Amstrad, so there's no reason why Flunky should differ greatly from the Spectrum and Commodore versions. Expect a very similar game.

"The animation, as might be expected from a Don Priestley game, is first rate, and plenty of colour is splashed around to please the eye."

COMMODORE 64: Fergie heckles Flunky for freckles




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A PAWN COCKTAIL

THE CHESSMASTER 2000

Electronic Arts/The Software Toolworks

HAVING taken America by storm, The Software Toolworks' *Chessmaster 2000* now hits these shores courtesy of **Electronic Arts**. With a number of awards already under its belt – including first place in the 1986 US Open Personal Computer Chess Championship – this is now available across four formats: the Commodore 64/128, the Atari ST, the Amiga and the IBM PC and compatibles.

The program includes most of the features which are now taken for granted in computer chess. These include the ability to take back a move, force the computer to move immediately, ask the computer to suggest a move and play back an entire game, move by move.

Chess isn't exactly reknowned for being a laugh a minute 'Whoops grandmaster is that your Bishop?' type of game, but this doesn't mean that people who play chess don't have a sense of humour. This is recognised by *The Chessmaster*'s programmers who have included a few humorous elements, such as a fake advertisement and public health announcement, and a clever feature called 'If The Boss Wanders By' which pulls down a spreadsheet to give the impression that you're hard at work – this however is not so useful if your job happens to be reviewing chess programs . . .

Most versions allow the display to be switched between the standard two dimensional 'newspaper style' chess board and the prettier – if less practical – 3D style. Standard chess co-ordinates appear beside the board for use with an alphanumeric system of piece movement. This can also be switched off, and a cursor employed instead – driven by the keyboard, mouse or joystick.

COSMETICS

When the multitude of cosmetic options have been tried and tested, one question remains . . . how good is its game? The only sensible answer is that *The Chessmaster* is as good as you want it to be. There's a basic choice between 12 levels (which determine the time allowed for the computer to consider its next move) and the levels are further enhanced by switching on the 'Newcomer Style' or 'Easy Mode' options. Newcomer Style causes the computer to play its easiest game, whereas Easy Mode eliminates the computer's ability to think ahead while you consider your own move.

The style of play is further adjustable by switching between three further options – Normal, Best and Coffeehouse. Normal mixes best and random moves, Best makes exclusive use of the best move available, while Coffeehouse makes a far greater proportion of random moves.

Something which could prove extremely useful is the 'Analyse a game' feature, which replays any game move by move, giving an analysis of what would have been the best move at each stage. The analysis can then be printed out, or saved to disk and recalled via most word-processors.

SAVED GAMES

Games can also be saved to disk at any stage (finished or unfinished) – but the only way of calling up a directory of saved games is by accessing the erase game feature, which isn't a very obvious route . . .

So, is this a real advance on existing chess programs? Well, in some ways it is and in some ways it isn't – the problem being that most of the real advances are in the cosmetics rather than in the game's workings. *The Chessmaster 2000* is definitely a worthwhile purchase if you don't already own a competent chess program . . . but otherwise?

AMIGA
Diskette: £24.95
While this version contains the greatest variety of options, some of them would appear to be almost totally useless – like being able to play with either metallic or wooden pieces. Why for instance would a player want to rotate the board by 90 degrees, and who needs a computer telling you in broken English that it's 'Your Move'. Despite these slight problems, this is one of the most polished and playable versions of the range, combining a clear display and easy piece movement (a cursor-hand appears to physically grip the pieces) with a challenging and well structured game.
OVERALL 84%

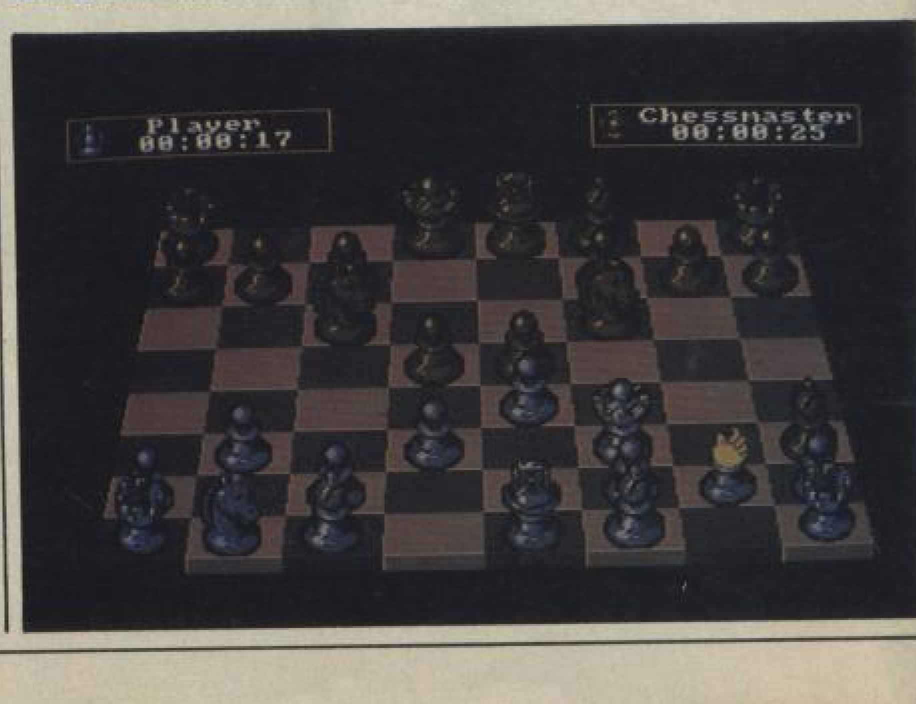
PC: the four-colour 3D display



COMMODORE 64: the newspaper-problem style of board display in all its glory



AMIGA: the most detailed 3D display



PC
Diskette: £24.95
Possibly the most straightforward chess game of the lot – but unfortunately this also means the blandest use of colour and the worst 3D display – the board's perspective is confusing and the pieces move in front of each other rather than behind . . . very unprofessional. This version's strongest point is the use of the function keys to pull down menus, allowing easy and quick access to the most important features.
OVERALL 81%

ATARI ST
Diskette: £24.95
The most noticable difference between this and the Amiga version is the speech. Whereas the Amiga programmers have used the crude in-built speech facilities, the Atari ST programmers have used sampled speech which is certainly a lot more understandable, despite the odd hiss and crackle, and doesn't annoy as much. In fact it's quite atmospheric and makes play marginally more enjoyable than on the Amiga.
OVERALL 86%

COMMODORE 64/128
Diskette: £14.95
Definitely the weakest of the four, most notably lacking the three-dimensional graphics and the game analysis feature. Some of the program's other aspects are also a little awkward to use – the board set-up feature for instance. This seems to be a case of attempting to fit too much into a machine which isn't really capable.
OVERALL 70%

" . . . definitely a worthwhile purchase if you don't already own a competent chess program . . . The Chessmaster **is as good as you want it to be . . . "**

THE CHESSMASTER 2000

COMPETITION

Chess has a long history, and the arrival of *The Chessmaster 2000* puts yet another slant on this classic game. **Electronic Arts** are offering readers of THE GAMES MACHINE ten copies of their computer version of chess – when you've read our potted history of the game, answer the questions and you could be playing *The Chessmaster 2000* for free!

Armchair generals have honed their minds on chess, the archetype of strategy games, since about the second century AD. Experts disagree on its precise age, but the history is clear: developed by the civilisations of northwest India, the game trickled into Europe along the trade routes.

Its complex variety must have grabbed the attention of medieval Europe's hairsplitting intellectuals, because by the late 15th century chess was well enough established for William Caxton to produce *The Game And Playing Of Chesse*, one of the very first printed books in English.

Modern chess has hardly changed since the 17th century; the 64 squares and 32 pieces offer a mind-boggling number of possible games. Will they ever *all* be played?

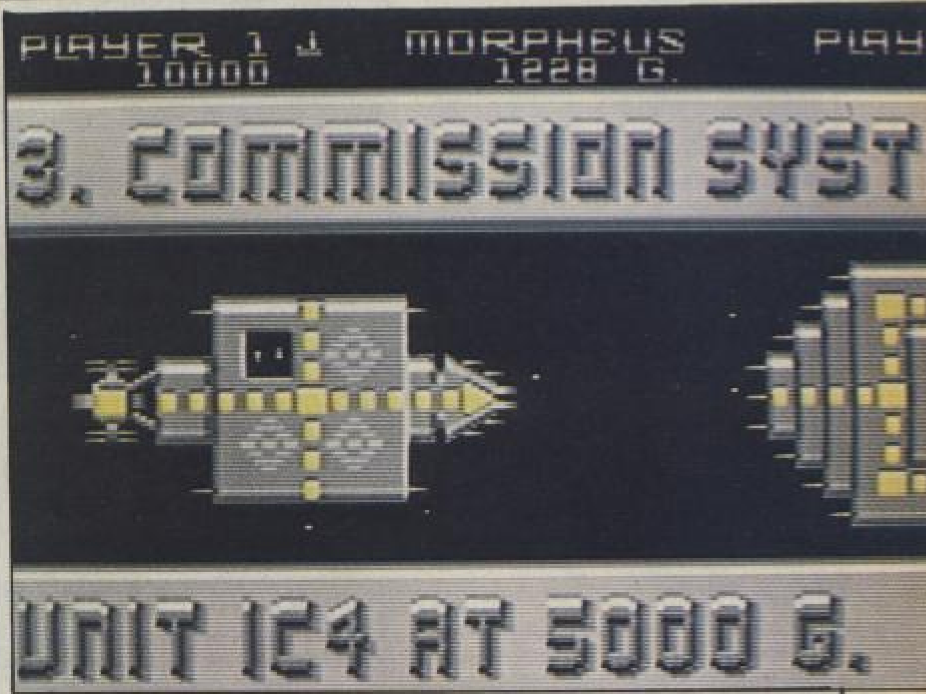
Perhaps – chess is found all over the world, and it's hardly a *Trivial Pursuit*ish fad. Its championships make headlines, and along with bridge chess is surely the most organised, most high-profile non-physical game.

The attraction of outwitting and crushing an opponent, simulating war, is perennial: even the Romans, who never had chess, played latrunculi (soldiers) on similar principles.

And even if we run out of Fischers and Kasparovs, there'll always be a *The Chessmaster 2000*.

1) What is the name given to a move whereby a player may move two pieces at once – the King and the Rook?
2) Which piece may jump over other pieces?
3) Which colour moves first?
4) List the three legal ways of getting out of check.
5) With what move do you indicate surrender during a game?

Send your answers on the back of a postcard or sealed envelope to CHESSMASTER, THE GAMES MACHINE, PO Box 10, Ludlow, Shropshire SY8 1DB, making sure they arrive before November 19th. Check the review before entering to make sure that there's a version of *The Chessmaster* for your machine – and don't forget to tell us which one you want if you win. Our usual competition rules apply – check the masthead if you're in any doubt . . .



TRAVELS THROUGH A NEW UNIVERSE

MORPHEUS
Hewson

COMMODORE 64 ONLY

In his three years at **Hewson, Andrew Braybrook** has established himself as one of Britain's leading programmers, with four high-quality releases to his credit. After a brief encounter with the Dragon 32, Andrew's first programming achievement on the Commodore 64 came in 1984, when he converted **Steve Turner**'s Spectrum shoot 'em up, *3D Luna Attack*. A year later Andrew's first original product followed – the cute platform game, *Gribbly's Day Out*. Gribbly achieved cult status, and the Braybrook reputation was strengthened by the release of *Paradroid* and *AlleyKat*. Phenomenal sales made *Uridium* Andrew's best-known game, which was still receiving awards a year after its release. After nine months of development work, Andrew Braybrook is almost ready to unleash a new game – probably the most outstanding program he has written: *Morpheus.*

On the surface, *Morpheus* seems like any other Braybrook release – featuring impeccable presentation, clear, metallic graphics, appropriate sound and plenty of playability. But what makes it so special is the meticulous attention to detail, something Andrew is reknowned for – but never before to this degree . . .

"With Morpheus I tried to create a whole universe inside the 64, where things happen off-screen and affect the way the game plays," explains Andrew. "I wanted to have a real spaceship, and aliens with more character – so they react to the player, get injured and aggressive. It's the most flexible and involved game I've written: there's a lot more subtlety and detail than ever before."

Indeed there is. The aliens in *Morpheus* don't behave like aliens in other shoot 'em ups. They all have individual characteristics – and that doesn't just mean identifiable movement patterns. They move at different speeds and respond with alarming intelligence

to your movements – and can be wounded, either by not hitting them accurately or using obsolete, ageing weaponry. Wounded aliens run away, or more often, get extremely aggressive and spew bullets everywhere. During play, it's very easy to develop a loathing for particular types of alien.

Both the weaponry and the systems which may be added to the ship are important aspects of the gameplay. Instead of simply collecting extra weapons as in most progressive shoot 'em ups, you have to pay for extra firepower and order the weapons specially.

THE AITHER WAY

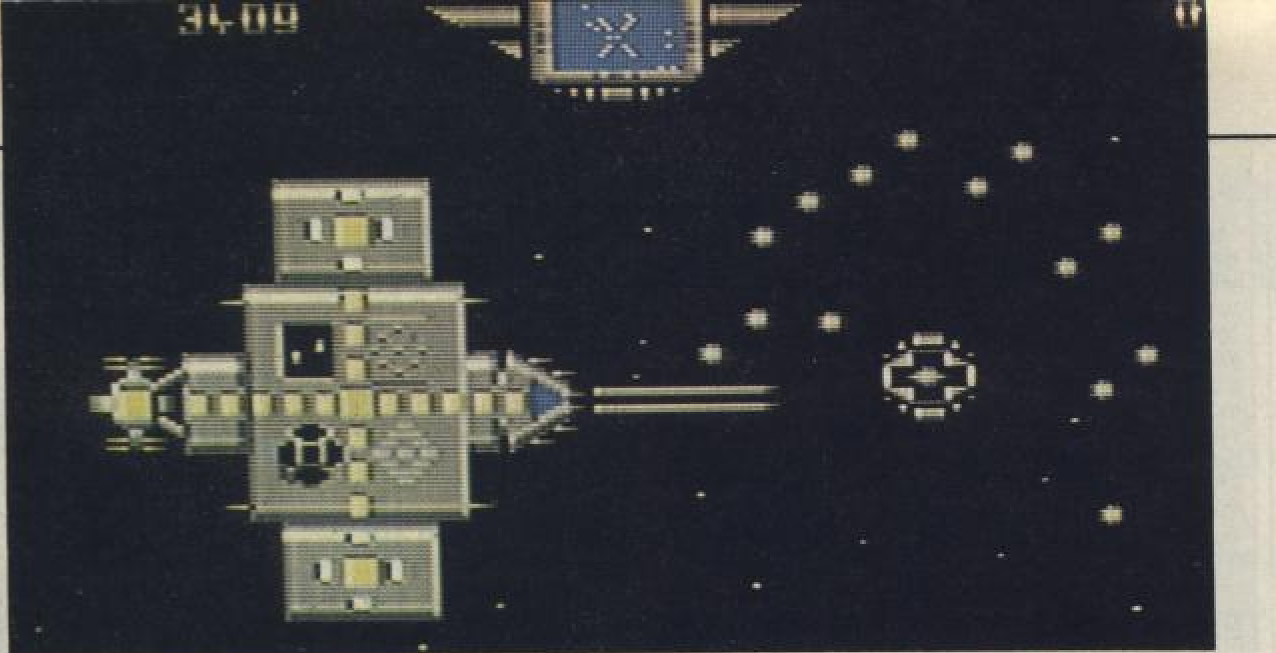
The Morpheus universe features 50 sub-universes, or Aithers, each consisting of a central Nucleus surrounded by 32 Orbitals. Orbitals are arranged around their 'parent' Nucleus in circles (single or concentric), spirals or clusters, and are slowly decaying. As they decay, Orbitals throw out Beacons which communicate their problem to the Nucleus – and the Nucleus responds by sending out replacement energy via a Rejuvenator. But the Nucleus only has two Rejuvenators, and so can't maintain a constant supply of energy to all the Orbitals, so Orbitals start to die. Eventually the Nucleus concedes defeat and shuts down the entire Aither.

Play starts with your ship docked at base, where a new hull may be purchased, or systems and weapons commissioned, scrapped or installed. At the start of the game the ship has no room for extra weapons and can accommodate only one extra system. Once play has begun and points and money amassed for killing aliens and shutting down Aithers, you can dematerialise and return to base for a shopping trip at any time. A very powerful and well-defended craft can be assembled, given sufficient resources . . .

Before launching into a game for the first time, you can choose which of the first eight levels to begin with. The Attract Mode shows a representation of a Nucleus, which spits out Orbitals in patterns which correlate to the eight levels – pressing fire at the appropriate moment allows a start level to be chosen.

TIMESLICES

The aim, once you're out in space, is to hasten the demise of the current Aither. Decaying Orbitals can be killed off by a well-placed blast from the laser cannon mounted in the nose of your craft. The number of Orbitals that must decay or be destroyed before the Nucleus gives up and closes the entire Aither down starts at one and increases to a maximum of ten as you get further into the game. *Morpheus* also has its own timescale – measured in Timeslices, which are about two minutes long – and while hanging around in an Aither



With a hull large enough to support two extra weapons and three functional systems, an advanced ship hastens the Positive Orbital's decay with well-placed shot



Shopping for essential extras inside the base

GOING SHOPPING

HULLS

Three hulls are offered for sale – the cheapest costs 25,000 credits and can support three systems and two extra weapons, while the biggest and most expensive hull costs 150,000 and is capable of carrying seven systems and four extra weapons.

SYSTEMS

A small but useful selection of systems is available from the outset, and a total of 16 systems become available. Some, like the **Double Glazing Windows** achieve little – other than turning you into an intergalactic boy racer. Here's a run-down on some of the more important items . . .

Inertial Convertors produce energy from your ship's movement – the faster the ship moves, the faster its energy level is replenished.

Solar Cells on the other hand supply a constant, albeit reduced flow of energy, which means you don't have to race around and endanger your life.

Batteries act like reserve energy tanks, storing energy when the ship has plenty, and releasing energy should supplies be getting low.

Shield Generators are similar to batteries, only they supply energy to the shield matrix, which is then converted into shield power by **Shield Replenishers**.

A **Charge Display** shows the balance of charge stored from dealings with Orbitals, and a **Shield Display** shows the status of the shields.

The **Nucleus Locator** indicates the general direction of the Nucleus – useful for finding the Nucleus and picking up a bonus once an Aither has shut down.

The **Charge Proximity Locator** lights up and makes sound when near an energy source, such as an Orbital, while the **Remote Locator** gives an audio indication as to how far off screen the **Remote Droid** is (see Weapons panel).

WEAPONS

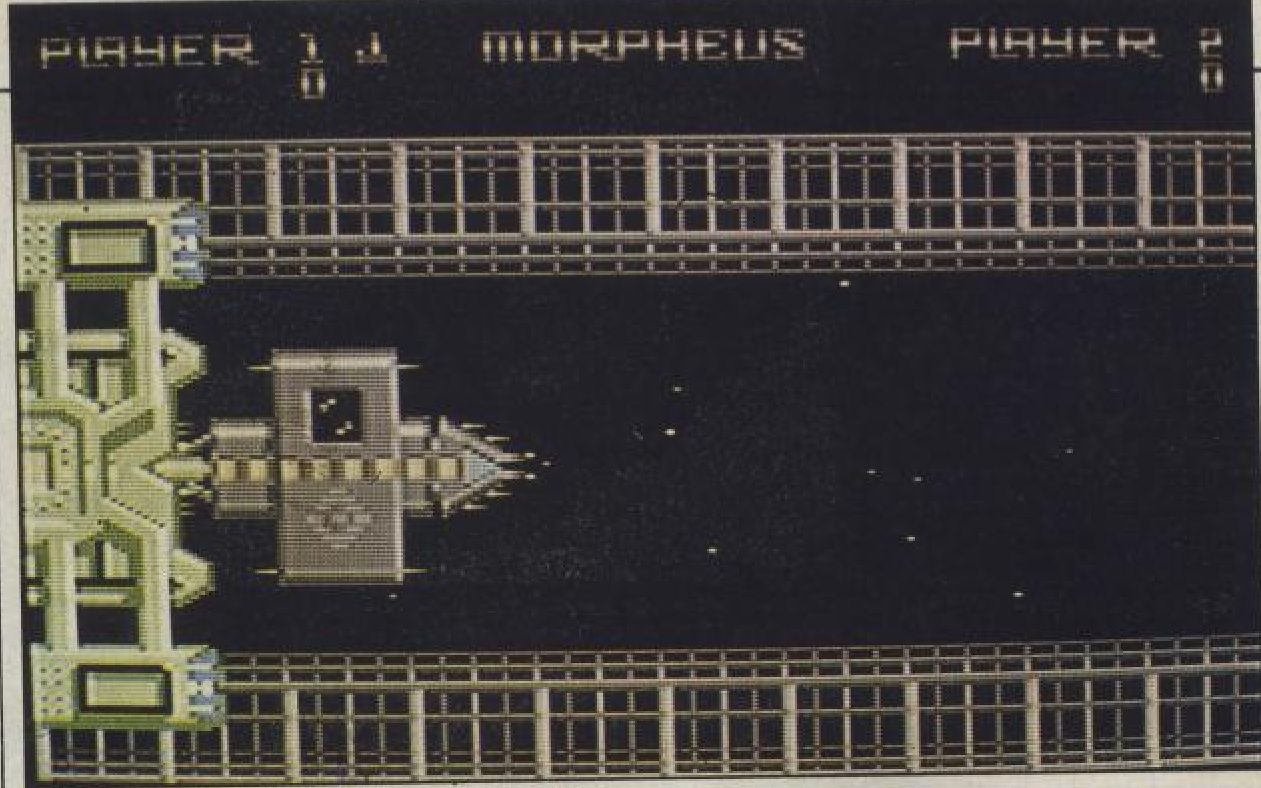
Initially weapons are not as important as systems, and only really prove useful later in the game when the aliens get meaner.

Extra firepower comes in two forms: four and eight way fire, with rapid, extended and simultaneous fire versions which fire all guns and provide a wider angle of fire. Extra fire systems are especially effective when bolted on to a Remote Droid, as the aliens get confused about whether to attack the ship or the Droid after its launch. Remote Droids can be bolted on to the side of the ship and launched in space, whereupon you can take control and go on a killing spree.

Disruptors – or 'smart bombs' – appear later in the game where they prove essential. Disruptors don't function like just any old smart bomb. Instead, they need time to build up enough power, before unleashing it on unsuspecting alien life forms, and the effect is longer lasting than that in, say, *Defender*. It takes a lot of energy to 'prime' the Disruptor, although a fail-safe is thoughtfully built-in – the Disruptor stops charging up if it realises you don't have enough energy. Alternatively, releasing the fire button – used to initiate the process – is just as effective. Early Disruptors are slow to build-up charge and re-load, but they function well enough. Keeping up to date with developments is important – using an old Disruptor when the aliens have evolved considerably may only scratch the surface of everything on-screen, which of course gets the aliens more than a mite peeved . . .

waiting for Orbitals to die of their own accord is one way of progressing, it isn't the route to success.

As time progresses the aliens become more of a threat, shooting more often and more accurately and generally getting more aggressive. One alien for example, Bia, avoids your ship to start with but by Timeslice 14 he's learned to fire – and a few Timeslices later it's you who's avoiding him! Aliens also get more intelligent, and become immune to weapons, so you have to keep buying the latest equipment – back at base the manufacturing plant produces increasingly more sophisticated items as game-time expires. Timeslice 50 marks the stage after which no further refinements in technology takes place, and after Timeslice 60 you can't buy any more weapons or systems.



Docked at base and ready to roll – the basic ship

ABSTRACT

Graphically, *Morpheus* is significantly different to previous Braybrook offerings. There are no smooth scrolling backdrops, and the aliens resemble abstract subnuclear particles rather than shiny, bas-relief spaceships.

"Yes," Andrew admits, "the aliens are more abstract – more artistic than just defined sprites. I can't draw, but I consider myself to be a competent graphics artist, using the crude capabilities of the machine in such a way as to produce a decent overall effect. They were designed to work: I like to think that all my graphics work and don't look out of place with the rest of the game. But *Morpheus* is very much a dynamic game – most of the graphics don't look too good until they move."

Andrew Braybrook is a perfectionist, and he goes to great lengths to ensure that everything is consistent and his games have an overall coherency. Which is why *Morpheus* has taken so long to produce – most of his effort has been channeled into making sure that nothing looks out of place. Nothing does, and as a result he has created a highly believable playing environment and *Morpheus* is very absorbing to play.

" . . . I consider myself to be a competent graphics artist, using the crude capabilities of the machine in such a way as to produce a decent overall effect."

OUT IN SPACE

The ship behaves rather unusually in space, arguably more 'realistically' than the vehicles used in most shoot 'em ups. Moves on the joystick set the craft off in the corresponding direction, travelling over a starfield that has three levels of perspective and scrolls in all directions. Inertia plays a major part in the control system – the ship drifts in a direction until reverse thrust is applied, and it's easy to overshoot objects or crash into them.

In order to dispose of an Orbital, the nose of the craft has to be lined up precisely with a port on your target, and getting into position can prove dangerous as well as difficult when intelligent aliens come on the scene. It's rather like learning to drive a car – it takes plenty of practice and perseverance to become conversant with the controls, but once mastered it becomes second nature and the feeling of total control is unsurpassable.

"It could even convert a few cynics who feel that the genre lacks substance . . . "

IT'S ALL GREEK . . .

To give *Morpheus* greater coherency, all the names used are based on Greek mythology . . . It's not the product of the programmer's Classical Education: "I went down the library one evening and had a look through a few books on Greek mythology," Andrew admits candidly. In Greek and Roman mythology, *Morpheus* is the shaper of dreams, who sent creatures of non-human form down to Earth – Morphi – to make people dream. Phobetor and Phantasus are the brothers of Morpheus and sons of Hypnos, and now they are aliens . . .

Collectively, the aliens are called Morphi, and Morpheus is the ultimate Morphi – with five stages of growth, he starts life small and slow, and gets bigger and a lot meaner as time goes on. Oh, and Aither is the void on the way to Hades.

One aspect of *Morpheus* which isn't as pronounced it was during the stages of development is the Positive and Negative Phases. "They were going to be more important than they turned out to be, but now it's only a graphical difference – a plus sign in the Positive Orbitals, and a minus sign in the Negative orbitals. Originally, there was a fair bit of ferrying about involved, trying to balance positive and negative charge. But it proved a bit too tedious so I made it less of an important factor – you don't have to worry about it, although you still get more points if you maintain a balance of charge and the ship is always neither full nor empty."

EXCELLENT

Clearly a great deal of thought as well as programming effort has gone into Andrew's latest production, and the peripheral touches show all the professional gloss that we have come to expect of the man. Excellent sound effects, provided by Andrew's partner at **Graftgold**, are used throughout – there's a superb scream effect as an Aither closes down, and a heartbeat thuds while you're in space, building tension subtly by increasing the pulse rate as the ship approaches a Nucleus.

All the usual Braybrook options are there too, including a one or two player facility. Pause and Restart and the ubiquitous high-score table – Today's Heroes. On the disk version, there's an All-Time Top Ten Greats table, saved to disk for posterity.

Andrew is currently producing a detailed booklet to give the whole package a classier feeling. "I'm including a Quick Start guide for someone who just wants to have a bit of a blast, along with a detailed scenario explaining how the individual systems, weapons, and aliens work. I've also drawn some pictures on the Amiga to show how things work, and pictures of the 16 systems which I'm hoping to use in the manual."

Morpheus is undoubtedly an involved game. There's a lot more to it than is covered in this preview, and most of its subtleties will only be discovered during play. We've been promised a complete copy of *Morpheus*, including the comprehensive players guide in time for full consideration next issue. A price hasn't been fixed at the time of writing, but it's likely to be £9.95 on cassette. It's difficult to say whether *Morpheus* will appeal to all shoot 'em up fans – but we're convinced that there's nothing quite like it and it bears all the hallmarks of a classic. Who knows? It could even convert a few cynics who feel that the genre lacks substance.

IN THE SHADES

A new interactive, multi-user game has recently started up on Micronet – the area of Prestel run independently for home computer users. Inspired by the original MUD, *Shades* was written for Micronet by **Neil Newell**.

To access the game you need a modem capable of 1200/75 baud Viewdata operation so that you can get online to Micronet, which occupies a considerable chunk of British Telecom's Prestel information service. You also need a computer, a telephone and of course an account number valid for either Prestel or Micronet – apart from telephone charges (usually at the local rate), playing *Shades* costs either 6p a minute or 1.62p a minute depending on whether you're a mere Prestel subscriber or have taken the sensible route for any home-micro-owner, and are entitled to the cheaper rate because you are a Micronet subscriber.

Up to eight people can play in one *Shades* game, and up to eight games can be run by the system at any one time. Entering a game with your specially assumed *Shades* persona, the aim is to wander around the land you find yourself in, collecting treasure (for deposit with a mad king) and interacting with the other players, known as *Shadists*. Points are built up and added to your persona's character in a number of ways – killing other players numbers amongst them.

The games reset every so often, so if all the other players have nabbed the available treasure it won't be long before you get a chance of collecting some yourself. Points are added to the score associated with a player's persona and are transferred with characters from game to game. The ultimate ambition any self-respecting player is to advance from the starting rank of novice to Wizard or Witch – *Shades* is an equal opportunities game,

The range of commands available is remarkably large – for instance there are over 40 ways of interacting with another *Shadist* on-line. Apart from killing him or her, that is.

If the idea of playing *Shades* appeals to you, but you lack the modem, Micronet might be able to come to the rescue. They're offering a couple of modems, together with a Micronet subscription and 25 hours free play on *Shades* to two winners of this competition. All you have to do is answer the four questions we've set, complete the tiebreaker in 15 words or less and post your entry to SHADES COMPETITION, THE GAMES MACHINE, PO Box 10, Ludlow, Shropshire SY8 1DB in time for it to arive before the day on which the two winning entries are to be drawn – 19th November.

SHADISTIC QUESTIONS

1) What does MUG stand for?
2) What do SHADES players call themselves?
3) What is the pub in SHADES called
4) SHADES players start as novices – what is the next level?

Our standard competition rules apply, check out the masthead if you're in any doubt.

win the magic key to

MICRONET Shades



We're giving away two of these fabulous packages worth over £250!

A Pace LINNET auto-dial, auto-answer intelligent modem. Plug this into your computer, connect it up to the phone line and the world of online communications becomes your oyster.



TOGETHER WITH ONE YEAR'S FREE SUBSCRIPTION TO MICRONET

Connecting your computer to the vast information store provided by Micronet gives access to on-line, interactive games – including SHADES and the multi-user space strategy game STARNET. There are interactive CHATLINEs where Micronet subscribers can converse with one another by typing messages on their computer keyboard and broadcasting them to the Micronet world at large. News, reviews, and downloadable software are all available to the casual browser, while special areas of The Net, as Micronet is known to its users, are given over to machine-specific databases where you can find all the latest information relevant to your micro.

plus 25 Hours of free adventuring in the land of SHADES

1 ....

2 ....

3 ....

4 ....

I want to play SHADES because ....

....

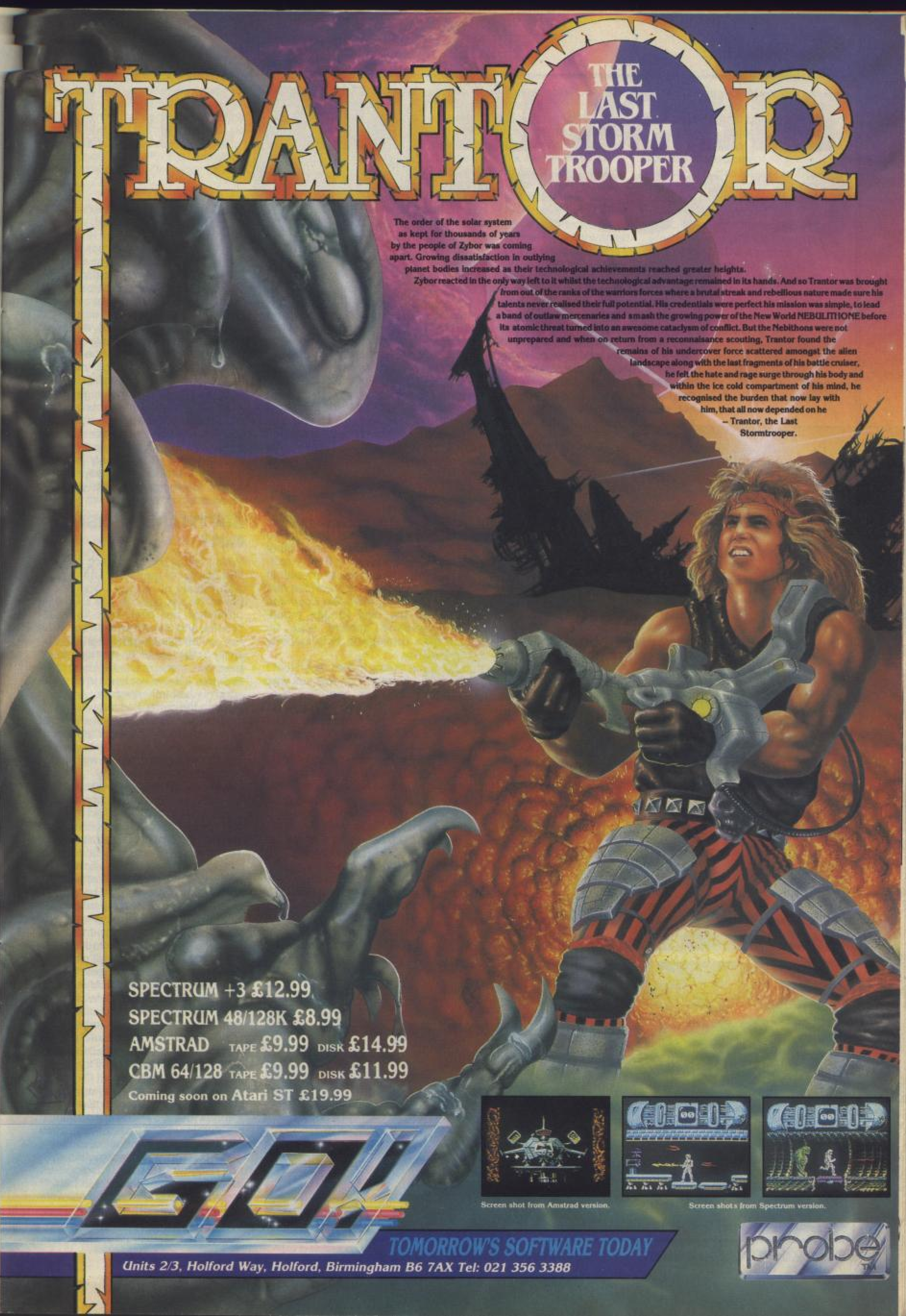
....

NAME ....

ADDRESS ....

....

Send your entry to SHADES COMPETITION, THE GAMES MACHINE, PO Box 10, Ludlow, Shropshire SY8 1DB


TRANTOR
THE LAST STORM TROOPER
The order of the solar system as kept for thousands of years by the people of Zybor was coming apart. Growing dissatisfaction in outlying planet bodies increased as their technological achievements reached greater heights.
Zybor reacted in the only way left to it whilst the technological advantage remained in its hands. And so Trantor was brought from out of the ranks of the warriors forces where a brutal streak and rebellious nature made sure his talents never realised their full potential. His credentials were perfect his mission was simple, to lead a band of outlaw mercenaries and smash the growing power of the New World NEBULITHONE before its atomic threat turned into an awesome cataclysm of conflict. But the Nebithons were not unprepared and when on return from a reconnaisance scouting, Trantor found the remains of his undercover force scattered amongst the alien landscape along with the last fragments of his battle cruiser, he felt the hate and rage surge through his body and within the ice cold compartment of his mind, he recognised the burden that now lay with him, that all now depended on he – Trantor, the Last Stormtrooper.
SPECTRUM +3 £12.99
SPECTRUM 48/128K £8.99
AMSTRAD TAPE £9.99 DISK £14.99
CBM 64/128 TAPE £9.99 DISK £11.99
Coming soon on Atari ST £19.99
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Screen shot from Amstrad version.
Screen shots from Spectrum version.
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probe

THE SMUTTIER SIDE OF SOFTWARE . . .

Mel Croucher finds that where there's muck there's bras

The Hunchback reached Esmeralda's tower at last, having evaded the soldiers, one out of every 20 of whom was homosexual. "*Come away with me, fair Princess, for I have rescued you, and you are mine!* " he gurgled repulsively. Esmeralda put down her soldering iron, and looked up from the short-wave radio she was constructing out of recycled household wastes. "*Bog off, shorty,* " she replied, "*I choose my own company, I don't want to catch AIDS and what's more, I like it here.* " Game Over.

That gameplay is a whole lot more realistic than the ones on offer at your local software shop, but everyone knows that reality is the last thing computer games are concerned with. Even though the majority of the population of this country is female, female adventure gamers make up only 15% of the total, and when it comes to arcade games less than 5% of the players are girls. How can it be otherwise? What is attractive in playing a game where you are depicted as being inferior, emotionally weak, intellectually stupid and physically dependent on men? In software 'the fairer sex' is rarely treated fairly, because software is SEXIST. The dictionary defines Sexism as 'discrimination on the basis of sex, especially the oppression of women by men' and the chances are that nine out of ten of you readers out there are happy to keep things that way. Maybe you are frightened by women, maybe you genuinely believe that somehow you are superior to women, maybe you've never even thought about it.





HEALTHY SEX IN GAMES

Healthy sex in computer games was pioneered by the same person who pioneered practically every other entertaining concept in British software. I refer, of course, to myself. In 1981, the Sunday People condemned me for releasing titles like *Love and Death* for the over-18 age group, which involved matters such as seduction, conception, birth, puberty and morality.

My crime seems to have been that I was promoting the idea that sex was sometimes amusing, and often hysterically funny. The probing went as far as the House Of Commons, where the wonderful Dr Oonagh McDonald MP trashed hysterical allegations on behalf of my good self, and rightly condemned mindless violence and sexism in games as being the real dangers. Since then very few titles have been released which deal with the realities of sex, with notable exceptions like Activision's *Alter Ego*, written by a clinical psychologist! This disk-based little gem gave the player the option of taking on a male or a female personality when dealing with the ups and downs of sex, and was a commercial non-event.

The brightest spot on the sexual horizon is probably Fergus McNeil's forthcoming *Enchantress*, which boasts a female lead character, a female villain, and "where women are intellectually far superior to slobbering idiot men breaking wind all day." McNeil's games have usually featured strong-willed women, but he admits: 'I have been guilty of mocking homosexual stereotypes. I won't be accused of racism or treating women as inferior beings, but I suppose gays are a way of raising a cheap laugh, and very few of them hit back. Nothing in this industry is moral, but I regret exploiting any group simply for what they are. I think boys are buying *Barbarian* for the poster, the game is irrelevant."

SOFTWARE SEXISM NOW

Which brings us face to face with selling computer games to young boys with the aid of women's bodies displayed as sex objects. The *Barbarian* promotion has been incredibly successful, and current adverts show the half-naked slave girl lying submissively at the feet of the warrior muscle man, who grips his four foot long phallic symbol above her head at an angle which is blatantly rampant. A glance through the current adverts shows an outbreak of naked female flesh of epidemic proportions, and as most of them are airbrushed paintings, the flesh itself owes more to wish-fulfillment than human anatomy.

Imagine's *Athena* artwork shows a woman from Dynasty in her bra and panties about to be ravished by some sort of a stud bull with a huge metal sex organ. *Renegade* features a Tina Turner clone dressed up as a prostitute, clutching another phallic symbol, while a couple of Village People guys fight for the right to have her. *Game Over* uses the simpering silicon-job inflatable woman stereotype, breasts almost secured by thongs and metal, while some armour-plated geezer embraces her from behind, clutching the inevitable symbol of male power, his hand-gun. Firebird's *Mystery Of The Nile* lets a Cindy Doll fall forward in order to display her pointed mammaries, and spread her limbs apart, while the ugly Arab clutches his umbrella-penis, and the hero in wellie boots grips, guess what? That's right folks, his hand-gun-penis.

The women on the packaging are, in fact, irrelevant to the gameplay, but the idea they are selling is that woman are nothing more than trinkets to be won, like sweets handed out for being good little boys, or more often than not, naughty little boys. I decided not to interview any little boys in putting together a reaction from the software industry to this sort of sexism. There seemed very little point.

PAT BITTEN is the flame-haired, nightclub-voiced* leaderene of Mirrorsoft. As she sucked on a King-Size, and I sucked the stem of the single red rose she had threatened me with, I asked her to justify the extremely sexist artwork for *Defender Of The Crown.*



PAT BITTEN

PAT: I inherited it from the States, and as far as I'm concerned it's a spoof.
MEL: You mean that the young lady isn't anatomically correct?
PAT: Oh no, anyone can see that her pose is absolutely realistic, I mean the poor girl couldn't stand up with boobs that size, and that's why she's flat on her back lying across a horse!
MEL: So you wouldn't condemn the use of Page-Three girls to promote games for children?
PAT: Listen, the use of Maria Whitless for *Barbarian* was a very successful publicity stunt for Palace Software; more power to their elbow, if you get my meaning. But I think that the use of big-busted women is totally unnecessary in games. People like you may be used to half-naked women at press launches, and you might just have enough sense to see through the hype, but the average 14 year-old boy player is being exploited far more than the girls are.
MEL: So why is the average player of these games a 14 year-old boy?
PAT: Easy. Women are much too sensible to waste their time playing computer games. We've got far better things to do. Like sell them!

PAULINE GARSDEN (38-21-38 incl. VAT) has held powerful positions in several software companies, and after leaving Argus, she set up her own firm, Endurance. I spoke to her lying in my bath, as she lounged, cradling a glass of crushed passion fruit, purring her words into my ear.* Luckily for her, we were talking by telephone.

MEL: As far as I know, you've never been involved with promoting a sexist product.
PAULINE: And I certainly never would. When I was at Argus, the biggest tit we promoted was Rupert Bear. After I left they released a casino game with the ample assistance of the biggest pair that money could buy . . . pathetic! No, I have never launched a sexist game. Biased towards boys, yes, but never exploiting women. The *Barbarian* circus is itself barbarian. That sort of rubbish exploits the lads as well as girls. It's an insult to men as well as women, and it is simply not relevant.
MEL: What would you do if someone offered you a lot of money to pose for a Page Three type photograph?
PAULINE: Page Three girls are making a living, and if I had a 38 double-D I might do it. To pay for the plastic surgery! No. I wouldn't, not a chance. But I won't stop other women if they want to.
MEL: Why do you think so many games use these sexual stereotypes? Why now more than a year or two back?
PAULINE: The guys that run software now are sexists. Make no mistake about that. They really do believe that they are stronger and cleverer than women. They honestly believe that they are somehow superior. It really is very sad. I'd feel sorry for them if I didn't find them so pathetic. You once wrote a piece about me which was an obvious send-up. Remember? The one about me dressing up in leather and getting up to all sorts of private, er, amusements. Well, some pillock lured me to a meeting pretending to want to discuss some software deal, and it turned out what he really wanted was the sort of thing Cynthia Payne can provide! That's the kind of male idiot I have to deal with.
MEL: Pat Bitten reckons that women have got better things to do than play computer games. Do you agree with her?
PAULINE: Girls at 14 or 16 have a much better time than boys of that age. They are more mature, they grow up faster in every sense. They go out with men, not boys. Half of the lads who are into computer games are not yet capable of relating to girls, and I think that it's easier for them to relate to electronic characters and a joystick. Playing with your joystick for hours on end has got an obvious Freudian significance, hasn't it. Yes, I agree, girls have got different priorities, that's all.
MEL: Have you never enjoyed playing one of these so-called sexist games?
PAULINE: I wish Robtek would come out with a women's version of *Hollywood Poker.*
MEL: With me as the stripper?
PAULINE: No dear, with Burt Reynolds.

CHERI LANGDELL, the ravishing blonde Californian ex-hippy* Doctor of orthodontic literature, handles media scum like myself, on behalf of THE EDGE/Softek group. It took me two weeks to extract the following revelations from her.

MEL: In your last telex to me, which you addressed to Percy, my parrot, for some unaccountable reason, you offered to give me your thoughts on sex and sexism in computer software. Can you remember if you have ever promoted a sexist game yourself?
CHERI: No comment
MEL: I see. Has Softek, or The Edge ever resorted to Page Three-type graphics to sell your games?
CHERI: No comment
MEL: How very interesting. What's your personal attitude towards this sort of thing? Do you think it's harmful? Do you believe that it reinforces harmful stereotypes?
CHERI: No comment
MEL: Well, that's fascinating. Thank you for refusing to answer my questions, verbally, in writing or by singing telegram. Do you think that gross indecency is having serial sex with 144 people?
SECRETARY TO CHERI: Cheri does not wish to talk to you anymore. Goodbye.

TANIA YATES



TANIA YATES is staff reporter for Computer Trade Weekly. She has been described as a fawnlike beauty, a nubile nymph, a fragrant hackette.* This is exactly the sort of sexist claptrap that infests computer software, because although all of these descriptions might well be true, they ignore the fact that she is an articulate and intelligent journalist.

MEL: You recently wrote an analysis of sexual stereotypes in computer games. How did you feel personally about what's happened in software?
TANIA: Boys aged 12 to 16 are getting interested in girls. This is an obvious fact. Using the sexuality of mature women to attract these young boys to very ordinary software products is cheap sensationalism, and when I know for a fact that 8 year-olds are being targeted, I believe that children of this age should be protected from it.
MEL: But how does it affect you personally?
TANIA: Personally? It degrades

PRESS ANY KEY

women. It degrades me. It promotes the idea to young boys that women are readily available to drop their knickers at the click of some boy's fingers. This is really unhealthy, and morally it's unforgiveable. We are not going to drop our knickers when men click their fingers, we must be free from these stupid male prejudices. We are not some sort of prize that can be won by completing a game!
MEL: Would you like to see software where the roles are reversed?
TANIA: No. I'm against all sexism, against sexism of both sides.
MEL: So what do you think can be done to encourage these boys to treat women with respect, and not just as sex objects?
TANIA: These games are so unimaginative. But the situation can be changed. Women who work in the software industry have got voices, haven't they? If we don't protest nothing will change. Authors, advertisers, software companies have got to show some imagination. If women had not protested in the past we really would still be the property of men, we would never even have got the vote!



MARIANNE SCARLETT



CHRISTINA ERSKINE

CHRISTINA ERSKINE is one of the several gorgeous, pouting women who hold down the job of editing computer magazines*.

MEL: As Editrix of Popular Computing Weekly, do you object to sexist adverts helping to pay your salary?
CHRISTINA: Are we talking nipples here?
MEL: Yes, we're talking nipples.
CHRISTINA: I will not interfere with judgements made by the advertising department of my magazine, just as they would never interfere with my editorial decisions. I will not act as censor, where would I draw the line?
MEL: Through the nipples.
CHRISTINA: But as a woman I really do object to it. It makes me bloody angry, and the Companies that are responsible know exactly how I feel, I've made sure they do. These adverts are irrelevant, no, they're more than that, they are downright misleading. They set out to inflame 15 year-old boys with the sort of sexual values that went out a generation ago, and what do they end up with? A load of pixels on the final screen that may as well be Frank Bruno, he's got a bigger chest!
MEL: You actually play more computer games than most women.
CHRISTINA: Yes. As a games player I am so tired of controlling a bunch of beefcake pixels rescuing a bunch of wench-pixels. It's so unimaginative. It's so boring. Let's have games where women can look after themselves instead of these loads of old . . .
MEL: Nipples?
CHRISTINA: old cobblers.



CLARE HIRSCH

CLARE HIRSCH is a sultry, dusky, pocket Venus* and Activision's Group Marketing Manager.

MEL: Activision doesn't seem to go in for tits and bums, in its software that is. Is that because you won't allow it? You personally.
CLARE: It *is* my decision, but we don't think that we are in the tits and bums end of the market anyway. We like to think we're selling premium software at a premium price, so the packaging and content has to reflect this.
MEL: In other words, software houses that indulge in sexism are like the Daily Star, whereas you try to be like The Guardian?
CLARE: More like The Independent.
MEL: I accept what you say, but I am also aware that you use your own sexuality when you are promoting your software. For instance, I've seen you soft-selling dressed in very little apart from a see-through string vest.
CLARE: Yes, of course I use my own sexuality, what do you expect me to do, hide it? It was a Marks and Spencers cotton top, by the way, and there was a heatwave on. I don't complain when my sexuality gets turned back at me, as I say, I use it.
MEL: Obviously you are not upset by sexism in games.
CLARE: I am definitely not offended, no. Each to his own. These women are not exploited, they know what they're doing, and I don't think women have much to gripe about these days. There is still some sexual discrimination, but being a woman can work to your advantage. If it was an all female market they'd be showing men in loincloths on the covers.
MEL: They already do. So why is it an all male market?
CLARE: I really don't know. The differences between male and female are essential. Haha. And there is an essential difference in the way boys and girls are brought up. Nine and ten year old boys are aware of women, and the differences between boys and girls. They are already becoming sexually aware, so the use of tits and bums does have some influence, even at that age. My little brother started kissing girls in the playground at 7! Yes, he would be attracted by this sort of packaging, it's all part of the same game.
MEL: But what if the girls don't want to be kissed by little boys?
CLARE: Then they can do exactly what I do. Tell the little boys to get lost.

MARIANNE SCARLETT is whacky. When I last spoke to her she wanted to whack me. As Headmistress of St Brides she has been responsible for adventure entertainments like *The Very Big Cave Adventure*, *Bugsy* and *The Snow Queen*.

MEL: Tell me about sex.
MISS SCARLETT: I would rather be a millionairess than a millionaire. Most of all I would rather be a milliner. As for sex-type sex, we only take young ladies as our pupils, eight at a time, lots of arms spread, knees bend, you know.
MEL: I can't help noticing that you are wearing a red velvet evening dress, gloves and that your lipstick has come off on the neck of this wine bottle. You're not going to talk about sexism in games are you? In fact this interview is a complete waste of time, and we may as well forget it and enjoy the booze.
MISS SCARLETT: Moonlight becomes you, I'm thrilled at the sight, and I could get so romantic . . . tonight. If I say I love you, I want you to know, it's not just because there's moonlight . . . oh no. Moonlight becomes you so . . .

GAME OVER

Girls grow up faster than boys. They reach puberty before boys, at which time they are physically bigger, emotionally more mature and intellectually a wee bit smarter than boys of their own age. Perhaps boys never get over this fact of life, and when they grow up into men they make up for it by sticking pretend women on little television screens and on tacky cassette covers, where little boys can use them for sexual fantasies or be encouraged to view them with contempt. Women in the software industry have summed this up in one word. Pathetic.

* examples of sexism in my own writing.

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ENTERING THE WORLD OF TV MAKE-BELIEVE

John Minson dallies awhile in Knightmare Castle



Imagine a world where anything can happen, a castle where every room holds a new peril, a possible trap.

Imagine a dungeon into which a single adventurer may venture, but only if he or she is wearing a magic helmet which reduces the wearer's field of view to a small area – directly in front and downwards.

Imagine a game show in which the only prize is success within the dungeon . . . and the cost of failure is death.

Imagine the world of *Knightmare* . . .

Knightmare is the new series from Anglia Television, which has taken the idea of the adventure game and transported it to the TV screen. It's being broadcast every Monday across the ITV network, and though its been scheduled into a children's slot, the show is destined to pick up a devoted following of all ages.

It's also set to run for a mere eight episodes, but I'm willing to bet my favourite broadsword that we'll see a new series before the year is out. In fact American TV wants more than that – executives who've seen the pilot programme have made noises about a run of 50 shows!

All of which is gratifying to everybody involved in the series, but especially to its deviser, **Tim Child**, who spent two long years persuading The Powers That Be that a show as boldly innovative as this was possible.

But what is Knightmare? As the series only started on September 7th (and in a frustratingly early slot), there's a chance that some people won't have caught up with it yet. In fact, at the time of writing it hadn't even started recording.

So the first thing that Tim and Anglia's Press Officer **Tom Walshe** did when I arrived at Anglia's Norwich HQ was to sit me down in front of a video recorder to view the fifteen-minute pilot that had persuaded the company to embark on their own adventure into this untried area of television. And, boy, was I impressed.

GRISLY GRAPHICS

The show begins with a narration that sets the fantastic scene, as a computer animation of a helmeted head strips away to a face, a skull and finally to two eyeballs. This grisly graphic prepares you for the horrors to come, and reappears during the game to indicate the adventurer's strength.



Tim Child, deviser of KNIGHTMARE, involved in yet another script conference with the show's producer, Sally Freeman

Then it's time to meet Treguard, the bearded dungeon master who hosts the show from the safety of an antechamber, though he does manifest himself in the gloomy caves to offer advice and words of warning.

With the preliminaries over, the adventurer is introduced – using TV wizardry the contestants are plucked from our dimension to materialise in Treguard's presence. Three aides accompany the voyager, and they watch the action from the sidelines, thanks to a little basic TV studio magic, shouting instructions to their blindfolded friend.

From here on in it's adventure all the way . . . at least until the adventurer has made so many mistakes that his strength is reduced to zero and the four players are returned to the mundane world of late buses and school. Only a few will manage to penetrate all the levels – and by so doing, gain their freedom.

If you've ever played an adventure game on a micro you will have an idea of what to expect. The masked adventurer is the 'puppet' character who,

unable to see clearly, is commanded by the other three players. Instead of typing in 'Go North' at a computer keyboard, they might shout 'Walk forwards a little' or some other appropriate command.

OPEN-ENDED

Where Knightmare differs from a computer game is that it's totally open-ended and anything can happen. If a team tells their hero to pick up an object, he will do so. There are no 'You can't do that' or 'I don't understand' messages in these caverns.

The experience is much closer to role-playing games like *Dungeons And Dragons*, where the players can suggest any course of action that they think fit . . . and somehow the Game Master has to find the rules that allow them to do it.

Each chamber of the Knightmare castle presents its own perils, from giant snakes to uncouth druids who insist on referring to the adventurer as 'Dogsbottom'!

Sometimes the only way out will be to run, guided by the advisers who must make a snap decision about which path to follow. Or perhaps there will be some humanoid dungeon denizen who demands a particular treasure or the answer to a riddle before allowing anyone to pass.

Either way, success means that the 'completed' room zooms away, to be replaced by the next one, rather like screens flipping in an arcade game. It's a small reminder of the television trickery that's creating the magical world, but more about that later.

Like all good adventures, Knightmare castle continues through a succession of increasingly difficult levels, with ever more dangerous apparitions. The only thing that can stop an adventure, other than death, is time itself. Sadly the dungeons are not immune to the constraints of television, and adventures are broadcast in half-hour episodes.

But the participants will escape the temporal disruption of 'natural breaks' because, as producer **Sally Freeman** explained to me, adventures will be recorded in one session, whenever possible, to keep it all vivid in the minds of the players.

As the titles rolled, Tim told me that this was in fact the second pilot that had been made, which is something of a surprise. Most new shows have one experimental episode, and that is usually meant for transmission.

TV REALITY

But in the case of Knightmare the pilots were made to prove that Tim's brainchild could actually be turned into TV reality. Some television producers seem to have an in-built distrust of anything to do with computers – despite their job of choosing what young people see, they're far from young themselves.

. . . he scraped and cajoled and somehow managed to make the first pilot on a budget of nothing . . .

There's very little real understanding of RPGs or computing inside TV companies – unless it's yet another demonstration of how wonderful the BBC Micro is for book-keeping. The common reaction of executives seems to be that nobody would want to watch people just playing a game.

All of which is probably true in itself, but Tim had realised from his experience presenting *The Soft Spot*, a local computer programme, that this new form of entertainment wasn't a threat to television, but that programme makers could learn from hi-tech leisure. His constant adviser in his quest to convert those thrills to the TV screen was his son, 11-year old Ben, who's also his harshest critic.

Tim saw that by taking the best elements of board RPGs and the problem-solving of computer adventures, he could create a game show that would break all the rules of TV. It wouldn't offer prizes and it wouldn't have a set pattern . . . but it could be superb television.

So he scraped and cajoled and somehow managed to make the first pilot on a budget of nothing, and it cast its spell on the Anglia executives who put up money for the second one.

The first questions Tim faced, two years ago, were about the nature of the show. RPGs provide a versatile

ART FOR THE COMPUTER

Even if **Dave Rowe**'s name doesn't immediately ring bells, you should recognise the man's artwork from countless computer game inlays. For example, he's the man behind almost all of Starlight's illustrations and a good number of Firebird's, and he provided the painting used for the *Softaid* inlay.

Recently though, Dave has been forced to turn down work because his time has been taken up with one major project . . . the backgrounds for Knightmare.

His involvement started two years ago when Tim Child contacted **Paula Byrne**, currently a senior executive at Telecomsoft (the people behind Firebird and Rainbird), but then at Melbourne House. He was looking for the name of a good fantasy illustrator, and Dave's name sprang to mind immediately.



The master at work: David Rowe completes yet another painting for incorporation in the KNIGHTMARE system

ART FOR ART'S SAKE

As we've already said, there was virtually no money for that first pilot, but Dave produced three pictures with overlays to extend their versatility. Then, when the time came to produce the second pilot he produced eight more . . . this time getting paid for his troubles.

Dave was still sweating away to meet the deadline when I met him – you just can't be late when a TV series depends on your contribution. But he says he's enjoyed the experience, and learned a lot from it. He's also pleased to report that none of his paintings have come back for alteration.

After some initial meetings in Norwich, when he got a chance to experiment with the Supernova, Dave started work at his home/studio just outside Winchester, and soon got used to working to the strict perspective grid.

He now receives details of the rooms from Tim, often via his newly-installed fax machine, and from these produces a pencil sketch. At this stage he can work out if there will be any other blue flats needed, for pillars or boulders for instance. He then paints a rough version of the scene to check out the colouring and details.

ADDING TEXTURE

The final stage is the painting itself. One of the most important features in a finished painting is the use of texture, and to this end Dave's been experimenting with various techniques. For example, as an alternative to simply using an airbrush, he's been waxing the paper so that the ink clings to it in drops.

To help him get the stone effects he's got a library of slides shot in places such as Winchester Cathedral. He also sends off sheets of texture to Anglia, so that they can be used as 'paint' when the picture is converted into a computer image.

But Dave says that though he's extremely impressed with the Supernova, he thinks that in the long run he'd need a strong drawing to start with, before he could work with a computer. And with 24 more rooms to have painted by Monday he doesn't really have the time to learn the techniques of new technology quite at the moment!

It all starts with a written brief which leads to pencil roughs . . .

. . . that develop into finished paintings



PRESS ANY KEY

The actors have to convince the adventurer that they really are wizards, knights or whatever, otherwise the illusion is ruined



A CHROMA-KNIGHT

framework and can cope with a number of different adventures, but Tim decided to go for the Middle Earth milieu as the most durable.

Next came the question of production techniques. The idea of doing the thing for real in an actual castle with an outside broadcast unit was soon rejected as too constrictive. Instead Tim decided to use techniques which were already commonly used in drama productions and adapt them to the game.

CHROMAKEY

The secret of all those rooms is a technique called Chromakey. You stand your actors and solid props in front of a blue screen. Now, by the miracle of vision mixing, the director can superimpose a signal from another camera onto the blue area.

That's why the adventurers wear the helmet with limited vision. All they'd see, down on the studio floor, would be a lot of blue sheets. But in the ante-chamber the aides are able to watch a properly mixed version on a heavily disguised monitor, so that they see their hero crossing marble tiles towards a crumbling arch.

Though the technique is common enough in TV, providing everything from sci-fi spaceship backgrounds to weather maps, could it be shown to work in a game series where anything can happen?

The first problem is that to match the perspective of the scene with the angle of view, the chamber has to be drawn to a strict grid and the camera has to be fixed in a single position.

The second problem required a rather more complex solution. An adventurer may choose to go through one of up to four doors, which could lead to a break between rooms. Some way had to be found of choosing scenes instantly . . .

The answer came in the form of a computer – namely a 24-bit Spaceward Supernova, which uses 120Mb optical disks and comes in around the £85,000 mark. Suffice to say that Dixons are unlikely to be stocking this particular model!

The Supernova lets Sally Freeman summon up chambers at the press of a button. Furthermore, if she wants to intercut a close up into the action later, the computer can automatically provide the correct viewpoint for the superimposed backcloth, thus providing much more visual variety.

RICKETY TREADS

During the development phase the team was learning what could be done and refining techniques. Instead of relying on flat blue cloths, why not have other cut-out objects, so that the scenery has depth? There's nothing to stop you using a set of blue stairs which can be transformed into rickety wooden treads thanks to Chromakey.

With the technical problems in hand, the other important factor was to develop a convincing tone for the shows. Role-players are, on the whole, serious types who like to believe in their adventuring. That's why the recording had to be free from breaks.

But Tim also had to get the right sort of players for the teams who would enter Knightmare castle, so he put out an appeal for 12 to 14 year old fantasy fans to come forward. The response was staggering, according to Sally. She toured the country auditioning potential dungeoneers, armed with a set of questions provided by Tim.

DRAGON QUIZ

This taught the Knightmare team another lesson – they would have to get the details of their fantasy world spot on. Sally recalls one meeting in Leeds where one of the youngest groups she saw came into the audition. Consulting the quiz, she decided to start them with what looked like an easy question and asked how many legs a dragon has.

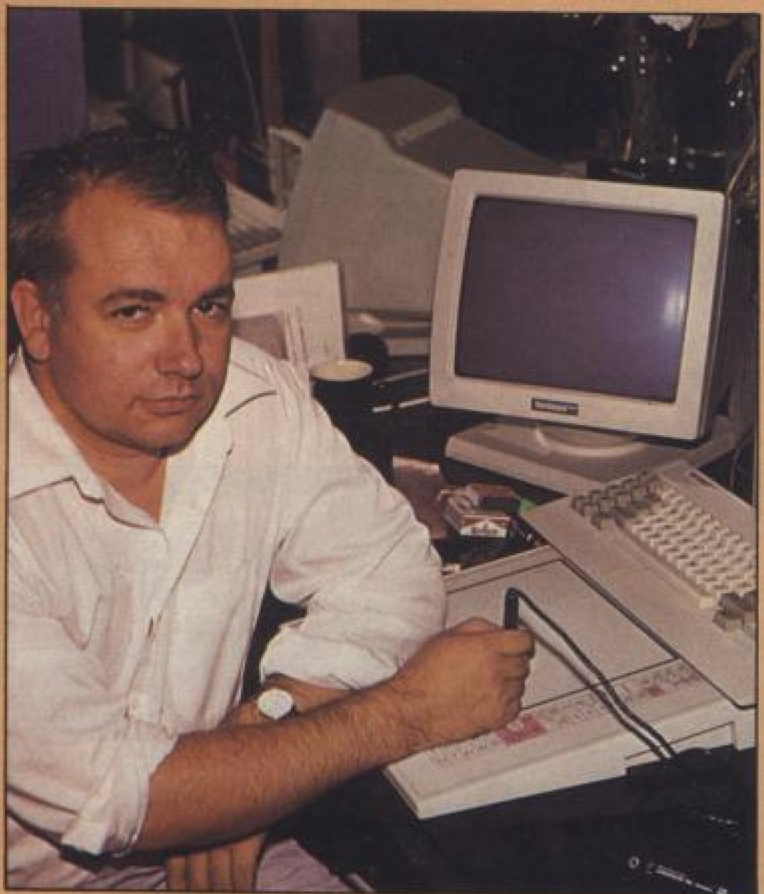
To her consternation they immediately asked what kind of dragon – red, green, gold? Just the normal type, she gasped, trying to cover her ignorance. As they got the answer right she made a mental note to kill Tim when she next saw him! By the way, that young team will be appearing early in the series.

Tim reports that the skill of the contestants caused slight problems for the people responsible for granting Knightmare a network slot. They had reservations, based on the belief that the puzzles were too difficult and should be geared to the viewing audience so that everyone at home could shout out the answers.

But Tim wouldn't compromise. The kids, he explained, were just so sharp that they'd romp through the castle if the puzzles were made easier, and in a show where there are no prizes and the competition is against the game itself, that would hardly be suitable. Luckily his arguments prevailed and he now reckons it will take a full three episodes to trace a path to the final level, and even then a team won't have unlocked all the castle's secrets.

This left Tim the mammoth task of writing scripts to cover every possible situation and Sally the stress of keeping track of all those words. She

GOING SUPERNOVA



Freelance graphics effects man, Robert Harris, doodles on the Supernova

Robert Harris is the man who's responsible for turning Dave Rowe's paintings into images which can be called up from the Supernova's potential store of 1024 hi-res frames.

Robert used to work with the BBC – you may have seen his effects in the TV version of *Hitch-Hiker's Guide To The Galaxy* – but he left the BBC to go freelance when he heard about Knightmare.

Now he takes the paintings provided by David Rowe and manipulates them, using the Supernova, so that doors suddenly appear or a truly disgusting 'stomach' room pulses and churns through 16 frames of animation.

The Supernova offers tremendous potential. Robert can choose the texture and colour from a section of wall then, using a electronic pen and drawing pad, can spray paint and cover an arch with it. The opening can then be made to reappear with the flick of a button.

He's also developed even cleverer techniques when it comes to the dungeon monsters. The obvious way of creating an animated creature would be to store it as a 3D pattern inside the computer – however, as well as being more difficult to manipulate, this would also mean constructing a model. What Robert has done is to combine the best of the old and the new. As well as his computer room he also has a small animation studio, where the monster is made out of clay and animated through a movement cycle. Each step is shot by a video camera and digitised.

The digitised frames can then be used in a variety of ways. Robert showed me how he can use the image of a spindly creature as a solid template, spraying white around its outside to give a shimmering, luminous effect. He then reversed the template and coloured the inside, to make it solid. By doing this to each stage of the animation he was able to superimpose the creature in the scene in a fraction of the time it would have take otherwise.

The most striking thing about Robert's graphics is the quality of light. Every object, whether it's solid or painted, casts a shadow, and the electronic backgrounds seem to glow, casting a strangely hyper-real light around the dungeon.

Though Robert jokingly describes the whole programme as being something like a maths exam (because of the tight perspective grid), the result looks totally unmathematical. I would have sworn that those stones had been gathering dust for centuries.



reckons that much of the effort is spent looking after these details, so that she can react immediately, whatever happens.

It's also a challenge for the actors who appear as dungeon dwellers, because they can't rely on set speeches. For this reason Sally and Tim have chosen actors very carefully, only using the best people they could find.

The actors have to convince the adventurer that they really are wizards, knights or whatever, otherwise the illusion is ruined. There's one striking sequence in the pilot show where a wicked queen quizzes a contestant, who obeys her immediately thanks to the strength of her performance.

ARMLESS?

One thing that was missing from the pilot was magic, which now plays an important part on the the path to success. Adventurers enter the dungeons unarmed, but they can pick up spells en route, and using them successfully is a test of (you guessed it) spelling. That may not sound very exciting in itself, but Tim says that the ritual of remembering a spell name under pressure is extremely tense – especially as failure can result in the magic being turned back on the user!

There are also warriors who may work with the adventurer, providing the correct answers to their questions are supplied. Folly the Jester keeps turning up too, offering hints. And there are even talking objects!

Tim observes that the saddest thing is that they're writing a vast amount of material, much of which will never be used – it's vital to ensure that no two sessions will ever play the same and that almost every eventuality is prepared for.

Sally, meanwhile, would like just one day off every week, but reckons it's unlikely that normal working patterns will be restored until the final brave, be-helmeted adventurer has bitten the dust. Making Knightmare capable of being played as effortlessly as it does calls for an incredible amount of work behind scenes.

But it's work that's well worthwhile, as far as I can tell, because the result is a show like nothing you've ever seen before. The possibilities are almost endless.

Once the techniques have been proved to work (Tim and Sally's main worry when I spoke to them) and the series has proved popular – about which I have no doubts – then it's time to look at further developments. Like a science-fiction scenario. Or maybe an adult version (and I've already put my name down as a contestant).

Whatever happens, Knightmare is just the start of the adventure.



Television producers seem to have an in-built distrust of anything to do with computers

A DUNGEON IN YOUR FRONT ROOM!

With a potential blockbuster like Knightmare, which involves so many computer effects, it was almost inevitable that a home version would be produced.

With a potential blockbuster like Knightmare, which involves so many computer effects, it was almost inevitable that a home version would be produced.

Anglia were selective in who they approached, and only three top companies bid for the title. In the end it was Activision who won the rights, and late November should see the release of 'Knightmare the computer game' on the big three 8-bit machines. ST users will have to wait until next January before they have a chance to sample its delights.

The programming team is headed by John Dean. Also involved are Mev Dinc of *Prodigy* fame and graphics artist Nick Cooke who did *Enduro Racer* on the Spectrum.



Starting out on your quest through KNIGHTMARE, the game

... note how the page turns to reveal another location

ESSENCE CAPTURED

As John Dean told me, the team felt that they couldn't follow the series totally, so they decided instead to capture its essence. Central to this is the idea of a book which contains the tale. The screen is split into two pages, which turn over extremely realistically as you move from room to room. Down the side of the screen is a candle, which burns away as your life force ebbs.

The player commands an animated adventurer, complete with helmet, much in the way that the team does in the series. There are also oracles, who appear with advice. But while one oracle is good and tells the truth, the other always lies. You have to learn to use both wisely. And there's Treguard, who introduces the game and materialises from time to time with warnings.

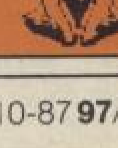
John didn't want the game to be limited to experienced adventurers, so he set about designing a friendly method of communication, which he's called the Word Gears. You spin two gears to scroll through the commands, then type in their initial letters to use them. Everything then appears on screen in speech bubbles.

PERSPECTIVE

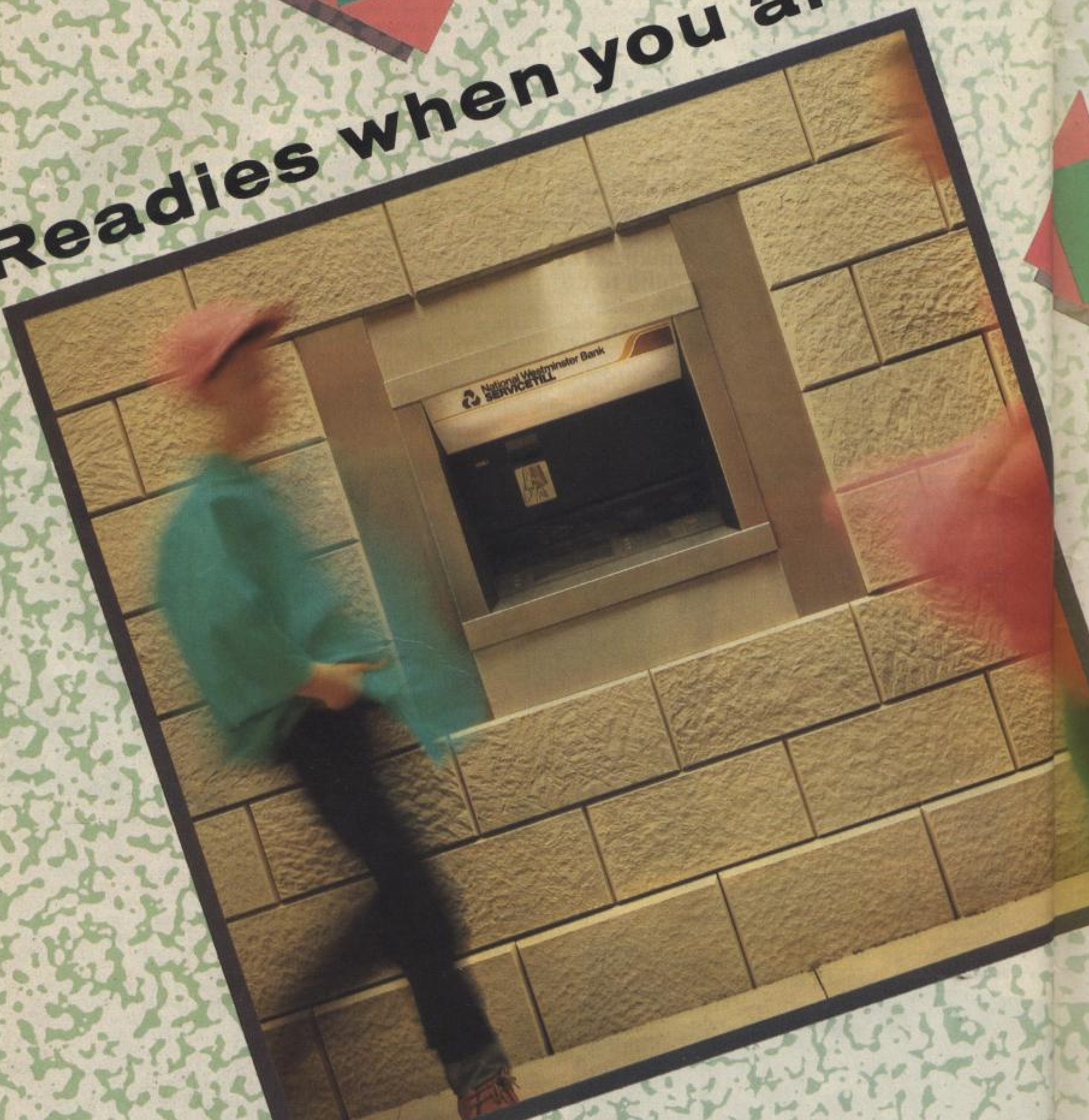
The game's graphics will match the those of series as closely as possible, using the same perspective viewpoint. Even in the case of a machine with limited graphics capabilities like the Spectrum (for which the first version is being produced), monochrome drawing and careful shading will be used to suggest the Supernova effects.

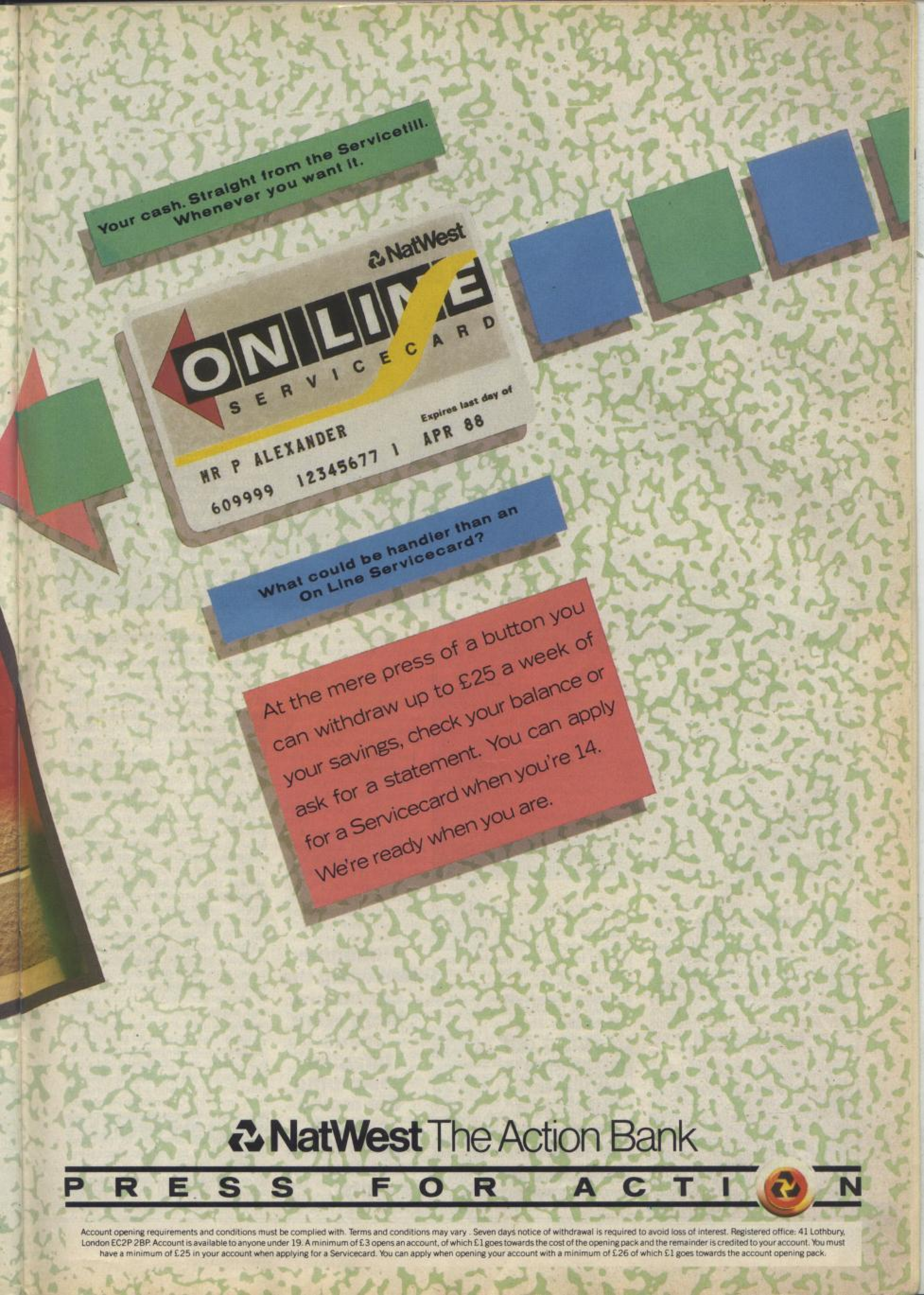
Although the game's complexity demands the use of a multi-load, this will be implemented in logical sections. Each location offers a probable occurrence, and each time you visit the room, that probability increases.

Because of the problems involved in developing new techniques, progress was quite slow in the early days, but now the home micro version is progressing at speed and John has no doubt that Knightmare will be just as big on home computers as it will on TV.



Readies when you are.

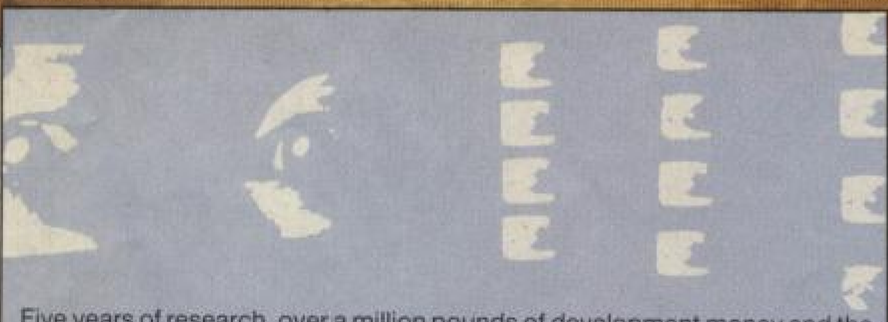



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WELC
ROB

Pick a monitor, any monitor! Taking a single videoframe and bouncing it around monitors and projectors is trivial stuff for the Robocore . . . photography just can't cope with giving a realistic impression of a Roboshow in full flight!



Five years of research, over a million pounds of development money and the combined talents of a large team of people including software and hardware designers, an actor, video cameraman/editor, 3D sound specialist and several musicians: add them all up, and what do you get? The Robosystem: a presentation medium capable of surrounding an audience with a precisely controlled 'environment' of images and sound. A system originally developed as an entertainment medium that has immense potential in other areas, including advertising and exhibitions.

The Robosystem provides a whole new way of presenting visual and sonic information to an audience – it's a brand new medium, just waiting to be exploited, and the possibilities are both astounding and immense.

When Edison invented the movie camera, no-one had dreamt up the idea of making movies. It took a showman like Lumière to realise the possibilities – and the impact of the early, simplistic films on audiences was staggering. When Lumière screened a film of an express train approaching down a track and apparently about to run into the middle of the audience, people watching it for the first time panicked, and dashed out of the 'cinema'.

The reaction produced by watching the demo show put together by Robodevco may not be quite so immediately dramatic, but the overall effect has to be experienced first-hand to be understood. Entering the subtly-lit auditorium that currently plays host to the prototype robo-system configuration, you are directed to a raised platform flanked by banks of monitors and with three video projection screens ranged in front of you at eye level. A relaxed atmosphere is produced by soft lighting and gentle music; getting comfortable you ready yourself for a sedate, traditional performance. This could be an intimate theatre and a relaxing performance of a classical work could be about to commence. Darkness descends.

Then it starts.

To the left, an eye and a mouth appear on two screens, one above the other. "Welcome to the Roboshow". Suddenly your senses are overloaded by the sheer volume of visual and aural stimulation as the show bursts into life. There is a storyline, involving the theft of a robot, but there isn't a start, middle and end. As images flash across the monitors you notice that the break-in is happening on one group of monitors while the thief is making his getaway on the other side of the auditorium. Meanwhile, the robot's inventor appears on the central projector screens.

"Imagine inventing the car before there were roads. Imagine describing the movie camera before there were films or scripts . . ."

Images dart around the screens, forming patterns of movement, flashing on and off screens on either side of you adding to the narrative – or distracting you from what's going on elsewhere. It's difficult to believe what's happening: while concentrating on one set of images, your peripheral vision detects movement to one side or the other – then the sound appears to be coming from yet another direction . . .

So much 'information' is presented you that it's almost like taking a fairground ride rather than watching something passively. Images change in fractions of a second and flicker all around you. The sound effects and music pound out and swirl around the whole auditorium, coming from behind, above, the front . . . and then from the middle of your head.

Robodevco's show makes watching even the most expensively-produced pop video played on the most sophisticated equipment totally bland by comparison. And this is only a second stage prototype Robosystem, running at less than half its current capacity and showing an experimental, seven-minute demo programme. With luck and sufficient finance, Robodevco will be able to stage a West End show with a full hour-long show involving Q, a mobile Robohost who makes Max Headroom look as streetsmart as Max Miller.

The ultimate aims are to franchise Robosystems to venues across the world and to involve the audience in shows by linking people up to sensors supplying feedback to the control hardware that affects the course of a

COME TO THE ROBOSHOW!

WORDS AND PICTURES: GRAEME KIDD

'standard' show. Every 'screening' would then be slightly unique. The Robosystem represents a completely new medium – all it needs is the message. A feature-length show could be storyboarded and put together from material specially shot and would cost about as much as an ordinary one-screen, one-projector movie.

The full potential of the Robosystem is difficult to quantify – its sheer flexibility means that there is no finite list of applications that can be discovered for it. The Robodevco team designed the system from the very outset to be an open-ended, futuristic communications tool capable of controlling the audio-visual environment surrounding an audience.

Even with 'add-ons' like 70mm, Dolby stereo, 3D, Smellovision or even the Oscar-winning Sensurround, traditional cinema screenings are mundane and simplistic when compared with a Roboshow. If the financial backing arrives and the commercial applications of the Roboshow materialise, the world could be in for a shock!

But then, nearly a hundred years passed between Lumière's cinematic demos and the time when George Lucas and his creative and commercial organisation got its hands on the technology developed by Edison . . .

ROBOTEAM

In the beginning there was Patrick Martin – the 'showman' who put the members of the team which became Robodevco in touch with one another. About five years ago the germ of an idea for a revolutionary new system for presenting sound and video began to develop . . .

Work began on a prototype, and a couple of years ago the first Robosystem was born in the back of a taxi – a limited show in a limited environment. A single screen was used to present a six-minute show, while the audio effects were supplied via headphones. This mini-Roboshow served its purpose – the potential for the system was demonstrated, finance was raised and work began on the Robocore.

A vast range of talents, skills and experience has been applied to the task of developing the Robosystem. A team of roughly 12 people is involved, and it's not easy to work out exactly who does what. Everyone contributes from their particular specialist knowledge, but everyone is also involved in the project as a whole, contributing ideas and imagination.

ROBOHARD

John Goodman has overall responsibility for the supervision of the hardware – described by colleagues as 'an all-purpose genius', he is probably the only person who understands the whole Robosystem from the front of the camera lens, through the control system to the output of the video screens. John is involved in both software and hardware and is responsible for modifications to the specially created hardware developed to interface the 'standard' technological components used to control sound and vision. Tony Grimwood, who takes care of diagnostics, completes the team's techno/computer element.



Hugh Roberts and Peter Maben, less than a sixth of the Robodevco team!

"The Robosystem is a view of the future of presentation technology, a credible fusion of contempor ary art and science . . ."

ROBOSOFT

Richard Brown, a hypnotist and writer, is the man responsible for the the software architecture of the front end, the system which allows a show designer to program the Robosystem. Using software written by Richard Land, files created on the front end system (written in C and running in a Gem environment) are converted to a format that the Robocore can access. The software that drives the Robocore itself was written 'in-house' by a contract programmer in Assembler, working to the system design provided by John Goodman.

ROBOVIDEO

Charlie Arnold is the video cameraman on the team, and although he's not the only Roboperson to get behind a camera, he has overall responsibility for editing material together for incorporation in a show.

ROBOSOUND

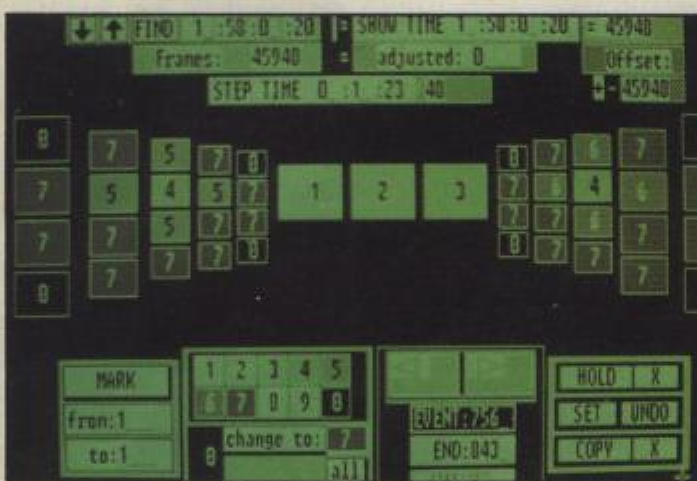
Sound and music specialists feature strongly on the Roboteam. Peter Maben's involvement in music production is augmented by Hugh Roberts' interest and experience in 3D sound techniques including psycho-accoustics. Hugh contributes a wealth of knowledge in the field of spatial sound recording and playback. Phil Nicholas, a Fairlight programmer, writes music with Patrick Martin for Roboshows.

PRESS ANY KEY

ROBOBUSINESS

Without commerce there is no progress . . . or so someone once said. The five years of research already invested in the Robosystem has cost over a million pounds – and another million wouldn't go amiss if the full potential of the system, including real-time audience interaction, is to be realised. A Danish fashion magnate, Peder Bertelsen, has arranged much of the financial backing so far – while Tim Davies is the business brain responsible for finding revenue-generating applications for the prototype system. The business team is completed by Financial Director Steven Winston, who has prime responsibility for finding financial backers while Warwick Wynshenk is best described as 'Contact Man'.

The display generated by the front end allows a show designer to control what will be on the monitors during the finished Roboshow, videoframe by videoframe – the frame counter tells the user exactly how many frames have elapsed in the show so far. ▼



ROBOSINISTER?

It's easy to be wary of new technological devices – and when you are presented with an auditorium packed with monitors and treated to a mind-blowing seven-minute onslaught of flashing screens and loud sound that appears to move around in the space, thoughts turn to the sinister applications to which such a system could be put. Brainwashing . . . subliminal conditioning . . . pyschological manipulation . . . Just some of the Orwellian concepts that spring to mind – especially when one of the Robodevco team has gone on record: "We've exploited available technology to a point where we can disturb or calm people by image and sound manipulation." Sales literature for the system points out that: "It can excite, soothe, startle or cajole audiences and communicate information with unparalleled effect."

Yes, theoretically a Robosystem could be used to manipulate rather than entertain – Robodevco don't try to hide the fact. "We regard it as a 'tame Big Brother'," Peter Maben explains, "and although it *could* be misused, we believe that by being open about the manipulative possibilities people will go into a Roboshow fully aware, and so even if someone tries to abuse the system the audience will be resistant."





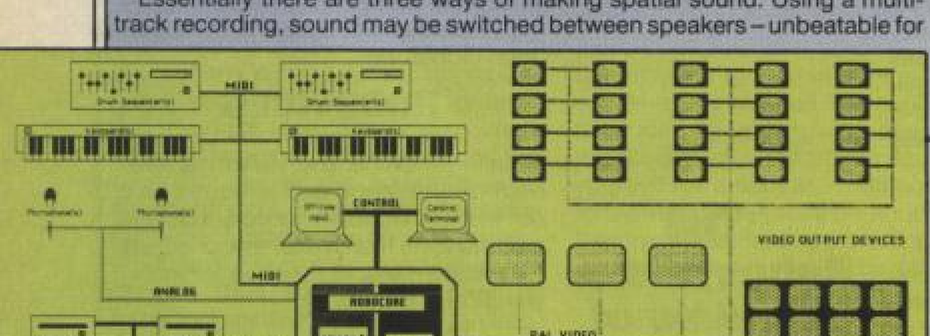
ROBONOISE

Psycho-accoustics is the science relating to the brain's perception of sound and involves making sounds that have believable interpretations. Such techniques are used in theatre, radio and cinema productions – for instance audiences can be 'fooled' into hearing a horse by someone clopping two halves of an empty coconut shell together. Sound recordings for a Roboshow are rather more intricate, creating complex ambisonic illusions in association with the video displays.

The moment a recording is played back through a single speaker you have spatial sound – albeit rather boring and limited spatial sound, emanating from a single source. Stereo sound recordings rely on the listener being placed in an optimum position in relation to the speakers – in 'the sweet spot' – for maximum effect. Three-dimensional sound recording and playback techniques as used by Robodevco are more flexible, allowing the apparent source of sounds to be moved around an audience.

Essentially there are three ways of making spatial sound. Using a multi-track recording, sound may be switched between speakers – unbeatable for creating exact effects, but complicated and fiddly. Artificial Head techniques work on the premise of creating or synthesising the phase differences that arrive at the human ear, and involve modelling the microphone on the human head – excellent as a production and recording method but less effective when playback is required for a large auditorium. Ambisonic techniques work by storing sounds as three-dimensional, X,Y and Z co-ordinates in conjunction with a pressure signal used for referencing.

Ambisonics offers the best storage methods according to Hugh Roberts, but Robodevco use all three spatial sound techniques to prepare the soundtrack for a Roboshow. The aim is to create a sound field that doesn't have any 'sweet detail'. The art lies in orchestrating music and effects so they sound good, no matter where the listener is placed in the environment. "It's like being in a forest," Hugh explains, "wherever you stand, you can see fine detail on the bark of trees close-by, and also a more general view of trees further away while gaining an overall view of the forest."



EXAMPLE SCHEMATIC OF A LIVE, MUSIC-DRIVEN VIDEO CONTROL ROBOSYSTEM

ROBOEXAMPLES

Much of the available recorded material that utilises psycho-accoustics doesn't take full advantage of the possibilities, but a flavour of the audio techniques used in a Roboshow can be gained by some selective listening.

The album, *Dreamless Suite* by Psychic TV contains material of dogs and wolves barking that has a much more dramatic effect on domestic cats than traditional stereophonic recordings of similar sounds! Another sequence on the album begins with a single telephone ringing. When a second phone sounds, most listeners are apparently convinced that their own phone must be ringing . . . but the illusion is soon shattered when a veritable chorus of telephones chimes in.

The best illustrative example of Holophonics (yet another system of spacial sound recording) exists on the original master cassettes distributed by Hugo Zucharelli – worth a listen if you can find one, otherwise make do with the CBS 12". Other examples are found in the effects on Pink Floyd's *The Final Cut*.

Lou Reed's *Street Hassle* used binaural recording techniques. The album *Aqua* by Edgar Fröse is best listened to on headphones and is a good illustration of the effects achieved by Neumann artificial head recording (old hippies will remember this one!) *Stereotomy* by Alan Parsons Project and more recently *Digitaria* from TAGC are also worth checking out as examples of ambisonic recordings, particularly on compact disc. If you have a CD player, and are at all interested in Holophonics and ambisonics, *The World Record* is essential listening.

Most of the equipment needed for recording and reproducing spatial sound is professional and made either by Audio And Design or Calrec By AMF. The Minim Decoder for home ambisonics is very rare but Troy's In-car decoder (TA110P) should be fairly easy to get hold of for under £100 if you want a more sophisticated listening system.



The Roboshow Auditorium, currently set up to demonstrate the system's capabilities using a two-part show put together by the Robodevco team.

ROBOSYSTEM

The Robosystem was developed to provide a dynamic environment in which sound and visual images could be moved in three dimensions and in perfect synchronisation.

ROBOCORE

Standard audio-visual equipment is used, connected to the Robocore – the heart of the Robosystem. The Robocore utilises specialised video and audio control equipment – but the hardware modifications, interconnections between the elements of the Robocore and the software that drives it, allow spectacular levels of performance in handling sound and video to be achieved.

An image taken from any of the visual sources connected to the Robocore can be moved between one or more displays every 25th part of a second and can be split over a number of screens to form a large composite picture. The Robocore is capable of handling up to 1,000 events a second – Robodevco's own demonstration show lasts for seven minutes and includes some 63,000 real-time events.

ROBOSCREENS

The Robocore at its current stage of development can take video images from up to nine sources, putting video information on up to 96 channels, each of which is used to drive one or more video displays in any configuration of type and size – from tiny monitors to giant TV projectors.

The video displays driven by the Robocore may be configured in any way the show designer wishes – the demonstration system uses three centrally-placed projection screens, flanked on either side by five vertical columns each containing four 14" monitors. There's no real physical limitation on the scale of a Roboshow: an intimate, one person desktop presentation could be developed on the system using twenty or thirty pocket-sized screens; projection screens could be mounted on the wall of a room with monitors set into a transparent floor over which the audience walks; or massive projection screens might be used to present a show in a large arena, say Wembley Stadium.

ROBOSOUNDS

Speakers arranged in the space around the video displays and driven by amplifiers under the control of the Robocore deliver the soundtrack that accompanies a show. The audio accompaniment can be straightforward stereo sound, or 3D sound may be employed. Utilising the 3D techniques developed by Robodevco that involve ambisonics, channel-switching and 'artificial head' techniques, the apparent source of sound may be precisely located and moved around in the space surrounding the audience. The sound and visual elements of a Roboshow may be integrated, capitalising on the close links that exist between visual and aural perception in humans and creating a 'psycho-sensory' experience for the audience.

ROBODESIGN

The Robosystem is a friendly medium for designers or directors to work with. Once the physical configuration of speakers and video displays has been decided upon to suit the particular circumstances of the presentation, existing 'library' images and sounds taken from commercially available recorded material may be used as input, or new material created specially. The icon-driven 'front end' to the system is used to prepare a program for the Robocore that tells it how to manipulate sounds and images drawn from the input sources. When the configuration of monitors to be used has been set up on the design computer, individual video frames may be called up from the input devices and assigned to icons representing the screens. The whole programme is prepared on the front end software and may be stepped through, videoframe by videoframe – a sort of off-line Robosystem rehearsal.

When the sequence of edits that make up a show has been prepared on the front-end – in many ways, an event-processor – the instructions may be saved to disk, converted to a format that can be loaded into the Robocore and used to control the show. After the physical equipment has been set up and connected to the Robocore and the software that controls a Roboshow written, only one person is needed to operate the Robosystem.

At a more subtle level, the Robocore is capable of reacting to personal, emotional responses.

ROBOFUTURE

The present system, although sophisticated in terms of audio-visual presentation media, is merely a second stage in the development of Robocore technology. The current set-up can be used to manipulate the environment surrounding an audience, moving images and sounds around at the will of a show's designer. Given more time (and another million pounds or so), the Robodevco team have plans for interactive shows. Members of the audience could be supplied with personal consoles linked to the Robocore, and required to make simple choices at pre-determined points in a show. Alternatively, the mood of the audience as a whole or the physical and emotional response of individuals in the auditorium could be monitored – using biofeedback sensors in the seats, for instance.

The Robocore could then modify the course of a Roboshow according the response of the audience – information received in real time. If the audience reacts positively to a the theme of a sequence it should be possible to develop on that theme as the show takes place at the expense of 'less popular' themes or effects. And live input from members of the audience could be part of the input . . .

Live musicians, a roving camera or other 'performance' inputs may also be integrated with a pre-recorded Roboshow programme, and so the Robosystem may be used as part of a live event. Or the Robocore could be interfaced with a building – taking input from the lighting system and sounds and controlling the visual environment. In *Artspeak*: a designer could use the Robosystem to create a unique kinetic environment.

The possibilities of the Roboshow concept are not limited by technology – only money and imagination have a bearing on the complexity of the shows that could be created.

BULLETPROOF ELEPHANTS . .

Mel Croucher ponders on the Compact Disc revolution

Computer data can be stored in very many ways, and nothing much has changed since our ancestors kept data on notched sticks. If you wanted to encode a roll of toilet paper with a series of cut-out dolls, read the holes with a row of lollypop sticks connected to doorbells, and decode the doorbell signals through your computer, there is nothing to stop you from storing a complex arcade game in this way. Trouble is your roll of paper would have to be several miles long, and it would take a day or two to load. Not a lot different from my first Commodore 64 really . . .

Nothing much has changed since our ancestors kept data on notched sticks

Of all data storage formats, there is one which is going to revolutionise computer entertainment. The standard sized laser disc is set to become the ultimate mechanism for the foreseeable future. A laser disc will last for about 200 years, although recent ageing simulations indicate a somewhat longer life. It can't get eaten by mice, like rolls of toilet paper, punchcards, or bar codes. It doesn't jam, twist, split and take minutes to load, like magnetic tape. It doesn't degrade or foul up with the application of coffee, fingers or loudspeaker magnets, like disk storage. In fact, you really have to work hard to damage these little laser discs: five inches of aluminium coated in tough plastic with a hole in the middle. And the cost? Well, you can pick up an hour of perfectly recorded digital sound from WH Smith right now for £4.99, but I'll let you into a little secret. They are produced by SKC Audio in the tranquil factories of South Korea for less than 50p a throw, including the plastic library case and full-colour sleeve insert.

I'll let you into another little secret. On a standard 5" compact disc, you can store 600,000,000 bytes of data. Let me put that another way: that's more than 12 megabytes per penny. Interested? Well you should be, because this revolution affects anyone and everyone involved with computers.



PIK 'N' MIX MEMORY

With 600 megabytes on board, a compact disc can store a whole herd of elephant's memories. Musical elephants, video elephants and computer data elephants, who never forget, are utterly reliable and tough as old, um, elephants. Everyone knows that a compact disc can store up to 72 minutes of near-perfect stereo sound, but the revolutionary 'Interactive' CD can store a whole lot more interesting things than that, and because it can transmit great wodges of data to the computer's memory buffer during the playing of sound and vision, the arrival of true interactivity is with us at last. Take a look at **Table One**, and imagine the pik 'n' mix possibilities for computer games using any of the facilities on offer to enhance 'traditional' program data.

At this year's Chicago Consumer Electronics Show, 34 different companies, including all the major recording houses, presented CD video discs for the first time. In the UK we'll be getting previews of these 5" wonders just before Christmas, and they will go on sale on or about February 1st next year at £5.49 each. I have only managed to see a few, but it seems almost certain that they will all run to the same formula of 20 minutes of digital audio, plus six minutes of digital audio/video. In other words, you'll be getting a CD containing about four music tracks plus a perfect copy of the sort of video promo used on TV.

You can play them on a 'normal' CD machine, but of course the video image will be ignored, as there is no TV-monitor output on most current CD players. For this little privilege, the consumer can expect to fork out an additional 20 to 30 per cent on the price of a CD player, but this is only the beginning of the story, because next to the little socket marked 'VIDEO OUT' will be another little socket, which, if hardware designers had any sense of poetry in their souls, would be labelled:

'AWOPBOPALOOBAMAWOP-BOOMBUM'.

It is more likely to be marked 'CD ROM'.

TABLE ONE: storage capacity of an Interactive Compact Disc

Near-perfect stereo sound	72 minutes
LP-quality stereo sound	144 minutes
FM-quality music and effects	10 hours
AM-quality speech	20 hours
Near-perfect natural pictures	5,500 frames
256-colour quality graphics	60,000 frames
Near-perfect movies	7 minutes
VHS video tape quality movies	28 minutes
Combinations of the above options	INFINITE

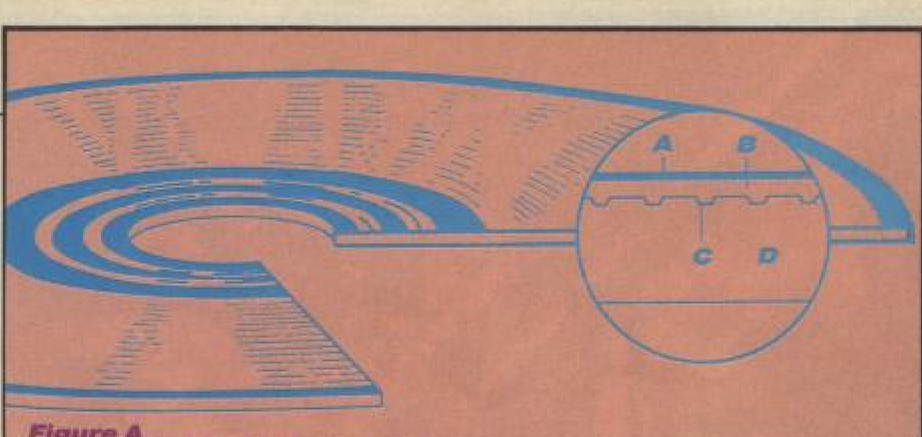


Figure A
SCHEMATIC OF A COMPACT DISC

A) Label information
B) Protective layer
C) Reflective coating, used to record signal 'pits'
D) Plastic (bullet-proof!)

Figure B
THE LASER AND LENS SYSTEM USED TO READ INFORMATION ON A CD ROM DISC

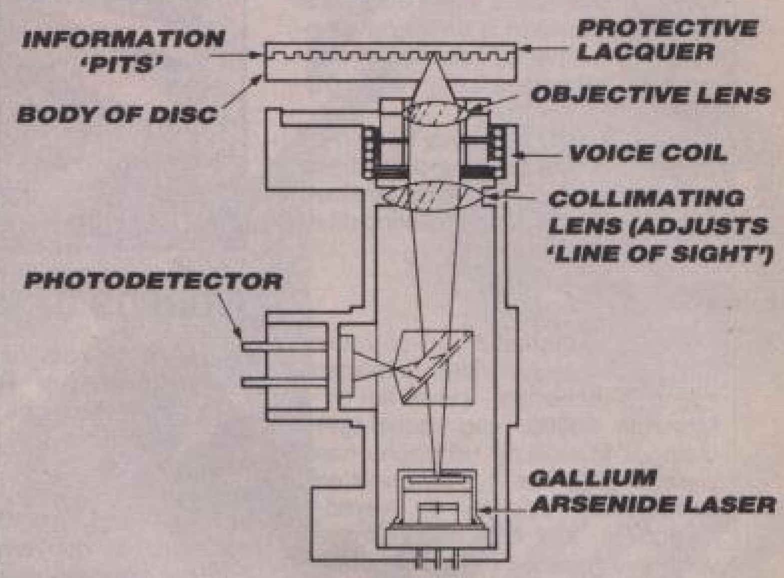
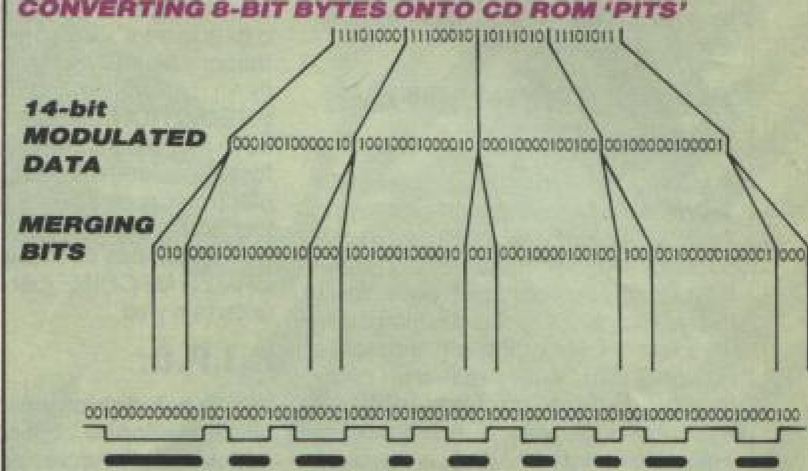


Figure C
CONVERTING 8-BIT BYTES ONTO CD ROM 'PITS'



THE IDIOT'S GUIDE TO CD-ROM

A CD-ROM, or Interactive Compact Disc looks exactly the same as a normal audio compact disc. This is mostly because it is exactly the same, a silver disc 120mm across, 1.2mm thick, with a 15mm diameter hole in the middle. (**Figure A**)

Digital information, represented by a spiral of tiny pits, is moulded onto one side of the disc, and that surface is coated with a reflective metal layer, which is then put to bed for the foreseeable future with a protective lacquer coating. The data pits are 0.12μm deep, and 0.6μm apart, and the arms of the spiral are kept 1.6μm away from each other. This gives a track density of 16,000 tracks to the inch, which is a whole lot more than a Winchester type of disk (several hundred to the inch), and a big fat whole lot more than my 96 track-per-inch floppy.

For the Trivial Pursuit bores among you, there are almost two billion pits on a CD-ROM disc, and the total length of the track is getting on for three miles. For most normal people, all this information is useless and thoroughly boring. More interesting is the fact that CDs are made out of polycarbonates. That's the stuff used for bulletproof windows! And what that means is, you can leave your CD to get fried by sunlight in your car, let the baby cut its teeth on it, or you can snort Beechams Powder off it without any harm at all – to the disc that is.

You can read the pits by purchasing a copy of The Sun, but the disc's information surface is read by a laser beam, or more specifically a small gallium arsenide semi-conductor laser, producing an oval beam of near-infrared light, which is converted to a little circular spot 1μm across, or 1/25,000", pre-metric. (**Figure B**)

If you care to go back to my toilet roll and lolly stick analogy, you can see that the conversion of bytes to pits, and back again is almost the same, (**Figure C**) with one magnificent advantage. The CD-ROM can trap and correct any error automatically. Think about it; perfect data all the time, every time! At the disc factory all the usual defects, such as poorly formed pits, lousy bits of metal reflector-layer or gross damage to the lacquered surface, may appear. All these faults should lead to chunks of data going astray. But on a CD-ROM there is some extra data shoved alongside the user data, known as the Error Correction Decoder. This takes the signal coming from the user data in bursts of 1000 bits at a time, and can actually regenerate all but one bit in every ten quadrillion. Don't worry, I don't understand it either, but it works just fine.

Don't worry, I don't understand it either, but it works just fine

INTERACTIVES, THE STORY SO FAR

Two years ago, I ceased my own involvement with 'conventional' computer entertainments, because they had become too restrictive for what I wanted to create, and I switched my entire computerised output to interactives. Many others have taken a similar path, and so far all of these paths have led in different directions, crossing one another, leading up blind alleys, doubling back, clapping out, taking off, you name it.

My experiments with interactive linear video worked fine, but nobody could produce a cheap enough video-computer-TV interface/controller. The 12" interactive laser disc system has been in use for a couple of years, but at £3,000 a throw, it is way out of reach for domestic useage. I know of four UK software houses who have slung together working interactive demos, which are unlikely to come to the market place, and I have personally been involved with several kinds of interactive video systems in various countries, all of which look somewhat sick when compared with the interactive compact disc, developed by **Philips New Media Systems**. But it is worth reviewing some of the various interactives that exist at the moment of writing this little article.

THE RECORD GROUP

Based on creative talent, not technology, which is a minor miracle in itself, **The Record Group** is a collection of Californian-based pioneers. They were the first to produce working demos of user-friendly laser discs, including an interactive tour of London, from street to street, starting in 55 BC and winding up in 1986. They have also produced a classic adventure game, with full speech, CD music, animation and TV-quality graphics. Their only problem is that nobody can afford to buy the hardware to play it on.

PREDICTION: if they stick together, they will be among the world leaders of Interactive CDs.

No doubt the pornographers will lead the way

MATTEL TOYS

This well-known manufacturer of kolourful kiddiewinky konsumables has already inflicted the *Captain Power* toy range on American infants,

PRESS ANY KEY

which responds to signals from TV programs. It is being introduced in the UK 'in the near future' (and we might even have details in this issue). Their very own interactive video disc hardware and software is under development, but I have no information concerning its compatibility with CD-ROM.
PREDICTION: interactive TV spin-off toys will cost mummies and daddies a great deal of dosh, be used intensively for a while, and end up gathering dust next to home micros.

INFOBOT

Not an automatic toilet-training device, but an American 'intelligent' taking switchboard, powered by a Motorola 68000, and requiring no changes in existing telephone hardware or software. It asks questions, understands spoken or keyed-in responses, and acts accordingly. If you have recently dialled an out-of-date number and received prompt, polite attention, chances are you've been dealing with an interactive robot.
PREDICTION: world-wide take-over within a decade.

INTERACTIVE VIDEO IN SCHOOLS

Funded by **The Department Of Trade And Industry**, and employing Acorns and the RML Nimbus, piggy-backed with 12" laser discs, some interesting projects have been tackled. A Shropshire group has simulated an excellent shopping trip through a French town, with 'real-live' communication from actual residents. A Loughborough group has got the Third World onto one disc, and played God with hydrology, agriculture and economics. A Leicestershire group is teaching 11 year-olds the design process – using footage provided by Coca-Cola! – and so on.
PREDICTION: the hardware will be wiped out with the coming of the interactive compact disc, the involvement in this brave software experiment might lead on to a few jobs for those involved.
OBSERVATION: how come these schools are funded for thousands of pounds worth of overpriced equipment, when parents are running jumble sales to buy pencils?



Illustration Courtesy of Philips New Media Systems

WORLDS OF WONDER

From the makers of the hideously Reaganite *Teddy Ruxpin*, comes *Julie*, the interactive doll that you don't even have to inflate. She can recognise up to 15 'secret words' spoken only by the voice of her 'owner', and responds with an appropriate conversational piece from her extensive memory bank. She knows when you turn the lights down low, and will automatically whisper something like, 'ooh, it's gettin' so-o-o dark in here'. Julie has 'full-face' animation, as well as heat-sensor spots (!).
PREDICTION: as American men have been marrying something very similar for years, Julie will undoubtedly be the electronic success of the season. This has nothing to do with interactive compact discs of course, but THE GAMES MACHINE just lives to entertain y'all . . .

N.I.P.O.

The Dutch Sociometric Foundation has developed the world's first interactive democracy system, using TV sets and home micros, very much along the lines postulated by our own wonderful **Rainbow Alliance** (you remember them – during the last election they wanted to close the UK down for redecoration, and have instant referenda every morning via our TVs, thereby abolishing Parliament). So far, 1,000 homes have been linked up, offering the Dutch access to facts, statistics and alternative solutions, without any opinion-forming analysis or bias, and the results have been chillingly accurate in terms of monitoring public opinion. For example, an interactive Gallup Poll was conducted predicting the swing towards the Christian Democrat Prime Minister with an error factor of zero. Somewhat better than every single British poll in recent times.
PREDICTION: because all governments suck, this system will never be adopted in its present form.

HIGH STREET INTERACTIVES

Here in the fabled city of Portsmouth, interactive laser discs have already penetrated the High Street. You can drive into a garage, fill up with juice and the latest Des O'Connor cassette, and as you pay your bill, you can refer to a display screen which nips around any location in the British Isles at the touch of a button. On request, your route will be printed out, including map, road numbers, diversions, road works or recent terrorist attacks, starting from the garage, and finishing at the address or location requested.

If you can't pay your bill, walk over to Lloyds Bank, where a smiling lady will accost you as you walk past her little booth. She'll ask you all sorts of personal questions, bring some order into your financial chaos, and practically nibble your chequebook for you. I need hardly tell you that she is an interactive laser disc. Much the same thing happens at the travel agent, where joyous citizens of Portsmouth can flit around holiday resorts, nip into hotel bedrooms to look at the view, and book their trip then and there. I expect you can find much the same all over the country.
PREDICTION: there are going to be a lot of garage attendants, bank clerks and travel agents on the dole, very soon.

There are going to be a lot of garage attendants, bank clerks and travel agents on the dole, very soon.

INTERACTIVES: THE STORY TO COME

When interactive compact discs hit the market place, most of them will be rather dull extensions of current computer games and music video-CDs. Those turgid pop video promos may have the lyrics scrolling along simultaneously in German and Japanese, and your MIDI-interfaced keyboard may well be playing along to *Cutting Crew*'s latest old tosh, but so what?

When you slice open your breakfast Orc, your monitor will probably be splashed with a gallon or two of realistic looking slime, meanwhile the strip-poker girls will exhibit real strip and real poker, and you'll be able to hear the Ninja's ribs cracking in digital stereo as you take your flight simulator through his abdomen. But so what?

These early interactive CDs will try hard to stifle the new medium at birth, and bore everyone rigid after a few plays, but the innovators should be able to step over them like dog wastes. The only limitation to CD-ROM entertainment is the imagination of writers, directors, musicians, film-makers and programmers. There are no restrictions other than myopia and playing safe. The terms 'computer game', movie' and 'home entertainment' have to be redefined, and very soon, fused together into a totally new pleasurable experience. No doubt the pornographers will lead the way. No doubt the innovators will revel in these new freedoms.

"There is nothing more difficult to carry out, more doubtful of success, nor more dangerous to handle, than to initiate a new order of things. For the reformer has enemies who profit by the old order, and the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it. "
Machiavelli, *The Prince*, 1513

"There is nothing we cannot do together when we reach out from your television screens and pull you by your ears, eyes and guts, through worlds you have only dreamed of. And if you don't believe me, or refuse to embrace your own imagination, the fate of the dodo awaits you. A witless relic that got stuffed. "
Mel Croucher, THE GAMES MACHINE, 1987



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ADDICTED TO THE ARCADE HEROINE?

The **Shin Nihon Kikaku Electronics Corp** (SNK) could hardly be described as the most well-known producer of arcade games, despite having a few fairly successful titles under their proverbial belt – *Ikari Warriors* and *Psycho Soldier* to name but two. **Imagine** are currently converting three SNK coin-ops to home computer formats, for release before Christmas. Conversions of *Victory Road*, the follow-up to the two player horizontally scrolling shoot 'em up *Ikari Warriors*, and *Psycho Soldier*, the sequel to *Athena*, won't be ready until November. The Spectrum and Commodore 64 versions of *Athena* however, are almost complete and should be available by the time you read this (an Amstrad version will not be appearing).

The most unusual aspect of *Athena* is that the central character is neither vegetable, man or machine. No, instead the star is most definitely female – a heroine who somehow manages to remain cute despite being scantily clad*. Armed initially with only her fists, the dark-haired beauty* has to battle through six, large, horizontally scrolling levels to reach The Last World. Her journey begins in the Forest, followed by a tortuous trek through Caverns, Sky, Sea, Ice, and Hell.

Blocks of stone feature in the scenery and smashing them to pieces not only allows progress, but usually reveals a weapon, a piece of armour, or an object which can be collected for bonus points – such as a bag of money. Other useful equipment found along the way includes a pair of wings in Sky World, which enable Athena to fly, and fins in Sea World which transform her into a manoeuvrable mermaid. Better still, collecting one object in particular means that should Athena meet her demise and you decide to continue play, she retains all objects acquired before death . . .

A large guardian is found at the end of each world and has to be defeated if Athena is to continue in her quest. The first guardian appears in the guise of a deadly tree, and is followed by an assortment of equally large and aggressive adversaries on later levels – including a minotaur, an octopus, and a many-headed hydra.

Athena is a large, involved game – so much so that the home computer conversions are multi-load, with two levels per load. The Continue Play option which features in the arcade game has been thoughtfully included to cut down the need to reload too often. The pace is fast, with plenty of platform and fighting action, and having to continually destroy parts of the scenery adds to the fun. *Athena* on the Spectrum is as playable as its arcade parent, and although the Commodore 64 version doesn't *look* too good at the moment, it plays well enough.

* examples of sexism in our own writing

WIN ATHENA IN A SUITCASE!!



Colour Monitor and Joystick Included

FIFTY RUNNERS ATHENA







RS-UP COLLECT A COPY OF

(For the Spectrum or Commodore – You Choose)

Amstrad-owning runners-up get a copy of Imagine's excellent *Renegade*.



Housed in a light-weight aluminium camera case, this superb first prize is unique . . . not only because of its portability, but because complex technical reasons have caused the screen display to be upside-down! This doesn't mean you have to play standing on your head, however: simply turn the monitor upside-down (not the machine, silly). We've come up with a few questions relating to famous fighting women for you to ponder over . . .

1) She set Colchester and London alight, and got her fighting men to wear make-up in AD61.
2) The French national heroine who went into battle on behalf of the Dauphin and ended up a Saint.
3) She gave chat show host Russell a hearty thump.
4) Legendary female warriors who gave Heracles such a hard time during his ninth labour.
5) This mythical Irish warrior queen killed Cúchulain and is now found on the Punt.
6) Ms Weaver kicked alien ass as this character.
7) Conan The Barbarian's comic book side-kick, as played by Brigitte Nielsen in a forthcoming film.
8) 2000AD's hardened Psi-Judge who defeated the Dark Judges.

Jot the answers on the back of a postcard or sealed envelope and send it to ATHENA COMPETITION, THE GAMES MACHINE, PO Box 10, Ludlow, Shropshire SY8 1DB – to arrive before November 19th. First correct entry out of the bag earns the sender the portable version of the *Athena* arcade machine, plus a Tatung monitor, necessary leads, and a Quickshot IX joystick so that the whole caboodle can just be plugged in, powered up and played. How's that for considerate?

The senders of the next 50 correct entries drawn receive a copy of *Athena* each – or *Renegade* if they're Amstrad-owners, so don't forget to state which version you require should you hit lucky.

MUSIC MICR

Established micro-music columnist Jon Bates sets the scene for a regular slot covering matters musical, and talks to two leading music programmers – Ben Daglish and Rob Hubbard.

Up and coming on these pages is an insight into that mega music computer – the Fairlight (yes we can all afford one at £60,000). Interviews with musicians who use games machines to create chart hits are scheduled, and there will be reviews of add-ons and software, help and creative guidance, along with general feedback. If you have any questions regarding music and micros, drop Jon a line and he'll do his best to help.

Nowadays you don't have to be a virtuoso performer or even need to be able to sight-read in order to produce very respectable music. All you need is time, software and a home computer. Let's start with an overview of how home micros shape up musically, offering a little guidance and hand-holding on the way for those who *no comprendi synthspeak*.

A revolution in music has been taking place over the past few years. Instead of exploding onto the stage, the outcome of this techno-revolution has been seen in the recording studio and more importantly, in the homes of thousands of computer and music aficionados, both amateur and professional. Rather than struggling with sore fingers for months to achieve a passable version of three chords, the approach of the modern tunesmith is to convert a spare bedroom into a home entertainment suite that is replete with micro-based music creating facilities.

If Beethoven were alive today, the chances are that he would sketch out his ideas on computer. The facilities on offer to the home computer musician are staggeringly comprehensive: it's possible to conceive and write quite substantial works on a home micro, playing them back or recording them directly onto a track of tape, or printing them out using a special printer capable of producing sheet music with a quality that can equal commercially-produced scores.

You don't have to have a portfolio of music exams or a degree in computers to be able to create music successfully on a micro. However, programming music directly without any dedicated software requires extreme patience. Software is a vital part of any micro music system, and while the most advanced music utilities are originally created for professional musicians, there's no need to lash out megabucks on software. Professional systems generally end up repackaged for the home computer, and are sold at more 'reasonable' – hence affordable – prices.

FUNCTIONS

Micros can function musically in several different ways:

1) they can create music on their own internal chips – the way the sounds are produced for most games;

2) they can control of external musical devices such as synthesisers and drum machines via MIDI;

3) they can work with specialised add-ons like sampling devices, custom sound chips and drum machines, effectively becoming more elaborate musical instruments.

Taking the first function, that of internally created sound, the least thrilling internal system is that offered by the 48K Spectrum – in reality a buzzer that can be coaxed into rasping out some interesting tunes. Moving up the scale of internal competence, we have the Spectrum 128, BBC B, Amstrad, MSX (except Yamaha), and Atari ST machines which all use the same fairly limited chip: the AY 8912. The Commodore 64 uses a special sound chip, called SID, which offers much more in the way of musical resources, while Commodore's upmarket machine, the Amiga, boasts the best dedicated music chip currently on offer. Called 'Paula', the Amiga's sound-chip is very competent at sound creation – although from the welcome package that accompanies the computer, you would never guess!

Yamaha's foray into the world of MSX, the CX5, is a special case as it comes complete with a dedicated stereo synthesizer module. If you really place music above all else, then go for this machine – it represents excellent value, particularly as the only way you can buy it is from old stock or second hand. The drawback to the CX5 is that despite claims of compatability, not all MSX programs run on it.

Acorn's 32-bit Archimedes is a bit of a dark horse at the moment, but reports suggest that is has a truly splendid stereo sound chip called 'Amy', rumoured to be a potential upgrade for the Atari ST.

If Beethoven were alive today, the chances are that he would sketch out his ideas on computer

MIDI MUSIC

A standard protocol for interfacing computers and musical instruments has been available for a good few years: MIDI, or Musical Instrument Digital Interface. MIDI is a universal language that allows you to hook up computers to synths, samplers, drum machines, sound effects, and single and multi keyboards. Once the physical connections have been made, a very wide range of information may be exchanged between the components of a MIDI-linked network, and the computer can be used to command each device individually or simultaneously. The micro as a music controller via MIDI is a most versatile tool, and a host of clever tricks become available to the musician.

With the interface hooked up, the software completes the system – and there's no shortage of MIDI-driving programs. Using appropriate software it is possible to achieve virtually anything you want to, musically . . . there are programs that allow you to to multi-track record, create and edit sounds on most synthesisers, file sounds on a database, write music in notational form and print out compositions according to traditional notation.

As a way of working, a software-driven MIDI set-up is difficult to beat. In short, you can create what the heck you like – play it back and edit it around until you're happy. If you hated piano lessons, the good news is that you don't necessarily have to play your tunes on a piano or synth keyboard in the first place. Notes can be entered from the computer, or indeed from a guitar or from some other instruments.

MIDI interfaces are available as add-ons for most micros. The Atari ST has built-in MIDI ports and there is a wealth of software, mainly American, that supports MIDI for the ST, Mac and the IBM PC and its clones. Commodore's machines, both the 64 and Amiga, are well catered for with a wide range of programs available from the USA, UK and Germany. Software for the Spectrum and Amstrad tends to be UK-written, while the Spectrum appears to have the most MIDI software at a cost-effective price. The BBC has a limited range of MIDI software – check out EMR's programs. They are Acorn's appointed music consultants and are currently beavering away at a very comprehensive package for the Archimedes.

Dedicated devices that turn a computer into a musical instrument are available for nearly all 8-bit micros. Drum machines for the BBC, Amstrad, Spectrum, and Commodore are easily obtainable, and there are several other types of musical peripheral on the market. The 16-bit machines tend not to bother with musical peripherals – they can use



RO, PLEASE!

sampled sounds sequenced together to much greater effect.

FREE SAMPLES

A sampler is a device that 'listens' to a sound, chops it up at high speed and converts it to slices of digital information. Sampled sound can then be played back at any pitch, under the control of either a MIDI keyboard or the QWERTY keyboard of the host micro. The quality of a sound sample depends on the sampling rate – the higher the rate at which the original sound is sampled, the greater the fidelity, but faster sampling chews bigger holes in memory space. For sound samples to be 'recorded' into memory and played back, an analog-to-digital converter is required – it's a device that converts the electrical wave patterns that represent sound impulses to digital information, and vice versa.

The quality of sound samples depends partly on the sampling rate, partly on the quality of the analog-to-digital convertor and partly on the type of computer you're using. Eight-bit sampling tends to be fairly scratchy on the whole, and inferior to 16-bit sampling. So 16-bit machines with large memories come out tops here . . . Many of the games for the ST and Amiga use sampled sound as part of their soundtrack, with the Amiga faring rather better – its sound is a lot cleaner and fuller.

Sampled sounds are likely to feature heavily in the soundtracks and effects that accompany 16-bit games, as Rob Hubbard explains a little later . . .

Sampled sounds are likely to feature heavily in the soundtracks and effects that accompany 16-bit games

MUSICAL MAESTROS

At one time computer games could boast little more by way of accompaniment than feeble squeaks and tiresome tunes that sounded like two inebriated wasps in a tobacco tin. But then Rob Hubbard and and Ben Daglish began making names for themselves. I set out to find out what involved in programming music for games.

ROB HUBBARD

Rob Hubbard really sees himself as a composer of music rather than a 'games musician' – he has wide experience of writing and arranging music. Rob started out having music lessons as a child, dropped out of university to play keyboards in a band and when they didn't make it, went to music college. On reading about the impressive American music software for the Apple he decided to get a C64 and start experimenting.

Discovering that he had a flair for programming, Rob proceeded to write and market some music educational software. With a dire lack of money (and hence motivation) for educational software, he decided to market himself as a specialist music programmer. The first Hubbard original soundtrack, for Incentive's *Confuzion*, was greeted with rave reviews and since then he has improved and honed his techniques. Perhaps the real key to Rob's success is that he is essentially a musician first, and a programmer second – if he didn't have to earn money through games soundtracks he would probably spend his time playing Soul, R 'n' B, and Blues on a Hammond organ!

I got the chance to chat to Rob before he nipped off to the States for a couple of months to work for Electronic Arts.

FAMOUS NAME

Arguably, Rob Hubbard has the best known name in the world of computer games music and has led the field for several years. Working freelance from his hometown of Newcastle, Rob can be credited with raising the quality and reputation of computer music for games. His achievements with the C64's SID chip are legendary – and astonishing, given the confines that are imposed on him by game programmers.

Generally, C64 games only leave about 4K of memory for sound and music so some pretty tight programming is needed. Part of the secret of

A HITCH-HIKER'S GUIDE TO COMPUTER MUSIC

Douglas Adams became seriously famous as a direct result of writing the radio series *The Hitch-Hiker's Guide To The Galaxy*. After spending several years writing and promoting *Hitch-Hiker* books, Mr Adams took a good chunk of time off and then settled down to write his latest opus, *Dirk Gently's Holistic Detective Agency*.

Using an Apple system to write, and ultimately typeset the book, Mr Adams found working a study crammed with synthesisers, MIDI equipment and Apple music software something of a distraction:

"I have to be careful . . . I might sit down in the morning to write and decide to play with a tune for a few minutes before I start. Suddenly it's half-way through the afternoon and I've written nothing!"

Not being a fan of piano lessons as a youngster, although musical, Douglas Adams didn't develop his keyboard skills. The advent of MIDI, synthesisers, the Apple and a software package by the name of *Performer* opened up a whole new world for the author. "The great thing about the computer is if you can write music, then you can just write it on the screen and the computer plays the synthesiser. It can play several synthesisers at a time, and it's rather like having an entire orchestra at your disposal. If you can write it, you can play it – it was an absolute revelation to me."

For the time being, contractual arrangements with his publisher means that Douglas Adams has to discipline himself to leave the music keyboards alone and concentrate on the QWERTY keys – a follow-up to *Dirk Gently* is in the pipeline. But as Douglas himself points out, computer hardware in conjunction with MIDI-driving software means that almost anyone can become a composer and performer. "I would love to sit down and record an album. It sounds like a preposterous thing to do, but it's no more preposterous that the idea of sitting down and writing a book a few years ago.

Look where that got him . . .





PRESS ANY KEY

Rob's success lies in the library of self-written routines that he has built up – they occupy very small slices of memory but enable him to coax the chip into performing to the full.

The SID chip has three channels of sound. Each channel can produce one of four waveforms, which in turn gives a different 'colour', and sounds may be shaped, mixed and modulated. From this rather poor soil Rob has cultivated music extraordinaire, producing compositions that give the illusion of using far more than three channels of sound.

Rob deceives the listener's ear by using several techniques, including flipping very rapidly from channel to channel, inserting routines to change the sound very quickly (Channel One could be playing two notes of one sound, then three notes on another sound and then one note of a third sound, all in rapid succession) and 'toggling', alternating rapidly from one note to another to produce the illusion of chords.

PRAISING PAULA

Right now he is well impressed with Paula (the Amiga's sound chip) . . . "It's really amazing compared with anything else that's around and offers a lot of possibilities."

As you might expect, he is currently writing a player program for the Amiga (a program that enables him to get to grips intimately with the sound-generating internals of a machine). As he will be using sampled sound, the player routines will also allow samples to be manipulated, opening up a wide range of possibilities. However, Rob is quick to point out that it's not so much a matter of the facilities you have, but more a question of how you use them. He's none too impressed with games that merely reproduce sampled, pre-recorded soundtracks and he's spent quite a while perfecting a way of incorporating sampled sounds into his music.

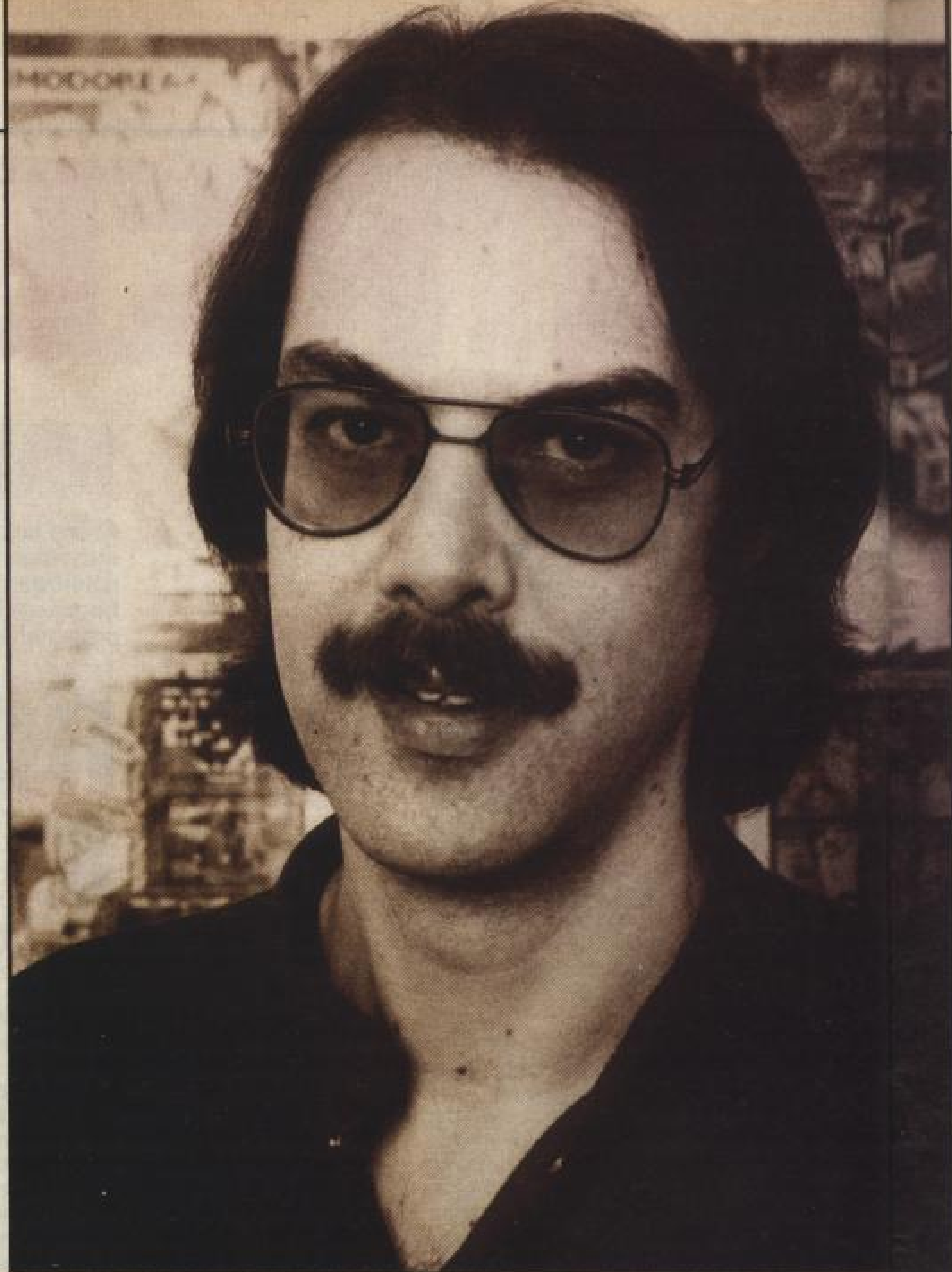
"Just sampling music and tacking it onto a game is a bit of a waste of time and not what I'd call constructive. I mean, that's where the imagination should come in. But there again you don't want to spend ages getting nowhere with a really complex sound chip. For instance, instead of farting about writing algorithms to work out additive notes and stuff like that to get chords, I can just sample three chords from a DX synth using a *Future Sound* sampler that fits into the back of the Amiga. It's not an original idea, but what's the point in using, say, silly drums when you can use samples more imaginatively."

Sampling from a synth isn't totally straightforward, though . . .

"Using digitised polyphonic chords is mostly pot luck – sometimes it works well, sometimes it doesn't. High harmonics tend to cause problems, really strange problems with the SID chip. For the music in Firebird's *Big Four Pack* I used samples taken from the Amiga and reworked my music player routine in such a way as to give me three SID channels plus a digitised channel. If I'm lucky I can get an octave and a half of usable sample.

"The samples can be played in one of two different ways. I can either read them just once and end (known as One Shot Mode), or I can loop the sample so that it starts from the first part but loops back to somewhere in the middle of the sample at the same level. This gives me a fairly clean endless sound, although I can make up my own waveforms for a sample if I want.

"The Amiga's sound chip is really amazing compared with anything else that's around . . . "
ROB HUBBARD



"Hearing Simon Nicol's *Crazy Comets* demo with digitised speech over top inspired me – I thought I might as well try and do something a bit more musical. But there's only so much you can do with samples on the 64 – with the very limited frequency spectrum, samples of really high notes get distorted and you're restricted to certain instruments because of filter problems.

"The big problem when dealing with samples is that the eye and brain can't comprehend all the data. If you see a drawing of the complete waveform it's a mess. But the ear . . . if you can imagine you're at a party, and there are all these people talking, and there's music banging away in the background – well the ear's such a good organ it can differentiate between it all. If you could *see* sampled data as the ear *hears* it, you could do wonderful things. But you can't visually break down a full sample structure, it's just loads and loads of bytes and you can't appreciate it as well as the ear can.

"I did the music for *Rainbow Dragon* without a sampler, but I bought a sampler for the *Big Four Pack*. I spent a whole day trying to get a good sample. Once I'd got four or five samples, I hacked 'em about and put them through a compressor (an audio signal processor). It took me an hour and half to write an interface routine to drop the samples into my existing music routine. Getting the stuff in pitch is awkward, so I use an electronic tuner to get the samples in tune . . . "

COMPOSING

Rob approaches composing in different ways, and when you consider the results he achieves it's rather surprising to learn that he doesn't begin with a mock-up of a soundtrack on a multi-track tape recorder.

"At times I do so much work that I feel totally burnt out for ideas, but when you've got the work to do, you have to try different ways of writing. Sometimes you can just switch on the machine and get something going straight away without doing any writing to start with. Most of the time though, I sit at a (music) keyboard and try and write 32 bars or so. I sketch out a few ideas on manuscript paper but all the hard work really goes in during the programming. I often add lots of other ideas when I am programming . . . but then I've got to look at all the source code if I'm going to convert a piece to run on several machines."

It takes Rob, when pushed, about a week to write and code up the soundtrack for one game, but very little time is spent sitting around . . .

BEN DAGLISH

If Rob Hubbard is The Guru Of Games Music, then he has a very close second in the shape of the effervescent Ben Daglish, Gremlin's in-house music writer. Ben has a lot in common with Rob Hubbard, both in terms of musical background and basic approach to music. He's also a great admirer of Rob, and they chat together fairly frequently about life in general and the intricate aspects of music programming. Ben was up to his neck in work when we met, a problem made worse by a recent two-week lay-off thanks to appendicitis. Now he's back in the office, he has more games to write for than ever. Working at frantic speed, his words tumble out like a fluent datastream . . .

Ben began his musical career in the time-honoured tradition: recorder lessons at an early age. His parents were very keen music fans, and counted running a folk club amongst their musical interests. Ben was going to study music seriously but decided to do maths and physics 'A' levels, gaining a place at university. Within a year, he decided that university wasn't really what he was cut out for, and so returned to Sheffield.

Ben has played orchestral percussion for some years, gaining a very wide background knowledge of music in the process. Like Rob, Ben began with educational software – setting up a company while still at school with Tony Crowther. After dropping out from university he renewed his contact with Tony and formed a specialist music company – We MUSIC – which he ran from home. Finding that the business side detracted from music-making Ben was more than pleased when Gremlin offered him a staff job . . .

WELL-EQUIPPED

Ben's office-come-workroom is well equipped with a couple of synths and synth modules, an eight-track recorder, Atari 1040 ST and Commodore 64. The walls have sheets of manuscript paper tacked to them along with the brief for the games he is working on. Bounding around with great enthusiasm, Ben loads several examples of his work, some of it using a MIDI sequencer, and leaps around the room, grabbing guitars and keyboards to fill out the sound even more.

So what's the Daglish approach to creating a game soundtrack?

"I normally work things out first on the keyboard, developing the bass, tune, and harmony, while working out the general mood and style. I might even use a drum machine to get the rhythm pattern." Everything is written initially *for* the SID chip in the 64 as this offers more sound possibilities, but written *on* the Atari ST.

The ST is used as a master controller running player software written in PASCAL. Gremlin's system is the musical equivalent of a word processor: whole lists of numbers flash up on the ST screen – the datacodes for the notes and their sounds. The Atari crunches away using a cross-macro assembler to transfer the data to the 64. This way of working is very flexible . . . "I play a piece through, decide that particular sounds aren't right, go back to the player, reformat the tune with the corrections and repeat the whole process again. Often I get a quarter of the way through programming a piece and realise that I really hate it. This usually means if I have time I'll start all over again."

When the final version of a tune has been approved for inclusion in a game, the Atari can be used to recode it so that it will run on the AY chip common to the Amstrad, BBC, Atari, and Spectrum 128. Clever Stuff! Ben stresses that he does not write his own player routines, rather he defines what they should be and Gremlin's in-house programmers create the software.

"The nice thing about the player routine I'm using now is that I can designate repeats anywhere I want – and hardly use up any more memory, so it's possible to get quite lengthy, interesting tunes out of a small core of material."

RESTRICTIONS

As we talk, a fax comes through from the game programmers working on the current project and further limits are put on the way that the music must be spaced in order that the TV scan line will run. Unflustered by these new restrictions, Ben continues . . . "I wish I could play the keyboard more fluently (he seemed pretty fluent anyway!). Often I find I have to work things out note for note as opposed to just doing it. Another one of the problems with music for games is that it's nearly always going to be heard through the horrible speakers on the monitor or on-board the micro. This means after I've programmed the music through big stereo speakers, I have to play around with volume levels and treble and bass otherwise it sounds really funny when the game is played by the purchaser."

When I met him, Ben was working on *The Alternative Olympic Games* (a spoof on the Epyx sports genre – for further details check out the Gremlin feature earlier this issue). Theme tunes for all the competing nations were ordered and Ben had just finished a very catchy little number.

Before starting work on *Alternative Olympics* Ben had his first brush with writing for the ST, working on *Galax*. "I was disappointed with the ST's sound capabilities", he observes. He's also disappointed by a lot of what he hears through the computer monitor speaker . . .

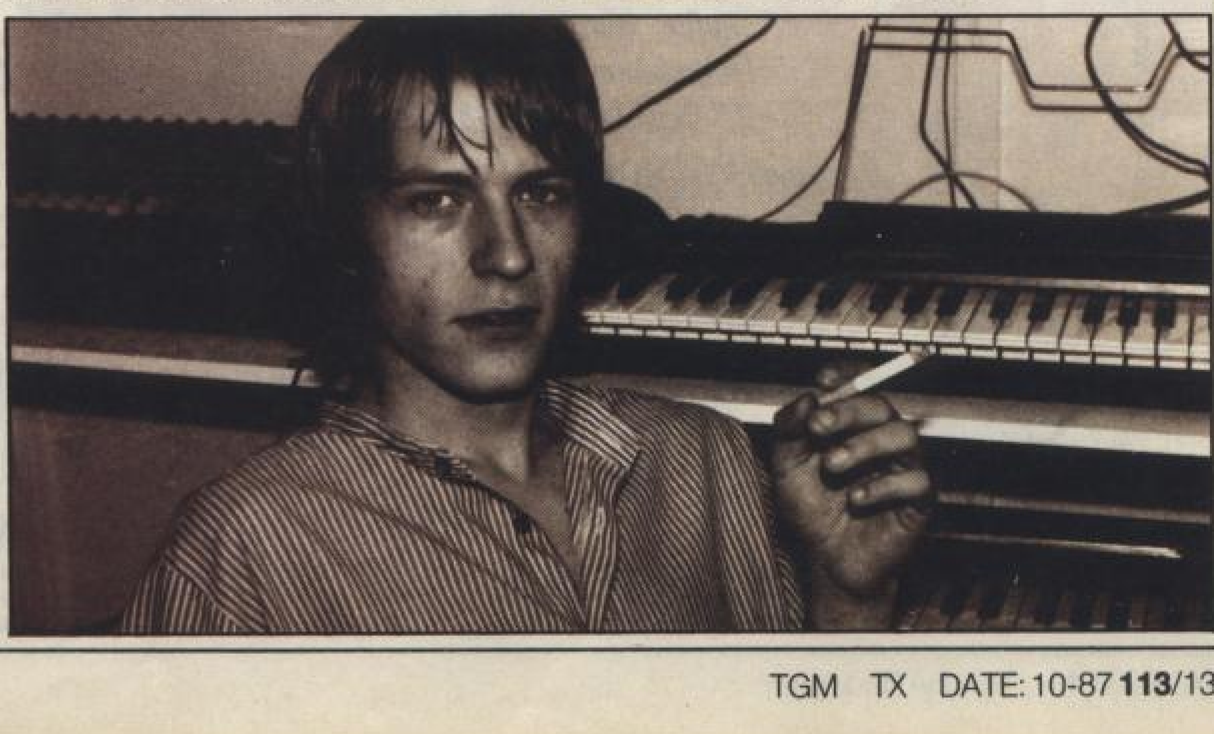
"It annoys me that there is a lack of tunes and imagination on most games although, I admit I am a great musical snob!" and then proceeds to illustrate, by hamming up some very repetetive games tunes on a nearby keyboard.

"With some games you think, my God they're not really trying at all! It's just a bland soundtrack, noise as opposed to a piece of music. Much of this type of music relies on cliches and sound effects, both of which I try to avoid. I think the only person who really knows how to use sounds is Rob and that's because he's been a synthesiser man for a good many years and he knows how to use sound effectively. Too many people discover a weird sound effect and decide that it will dominate their soundtrack . . .

"The development of music for the C64 has been very interesting though. When it came out nobody realized that you could do pulsed fades and things like that – or if they had, no-one was using it effectively."

It is obvious talking to both Ben and Rob that the era of the musician/programmer is nigh. Music for games, just like the graphics, is coming of age and the public are voting with their wallets. Rob, Ben and a few others have shown the way for both inventive and imaginative music that is catchy and will stand on its own; music that can last for several minutes but doesn't follow the boring old pattern of repetition. The chips used on 8-bit machines are being pushed to the limit. It will be very interesting to see what they will be doing when new, super sound chips become more commonly available. My guess is that they will move towards a mixture of manipulated sound samples and high level synthesis. The results will be stunning. Watch this space.

"It annoys me that there is a lack of tunes and imagination on most games . . . "
BEN DAGLISH



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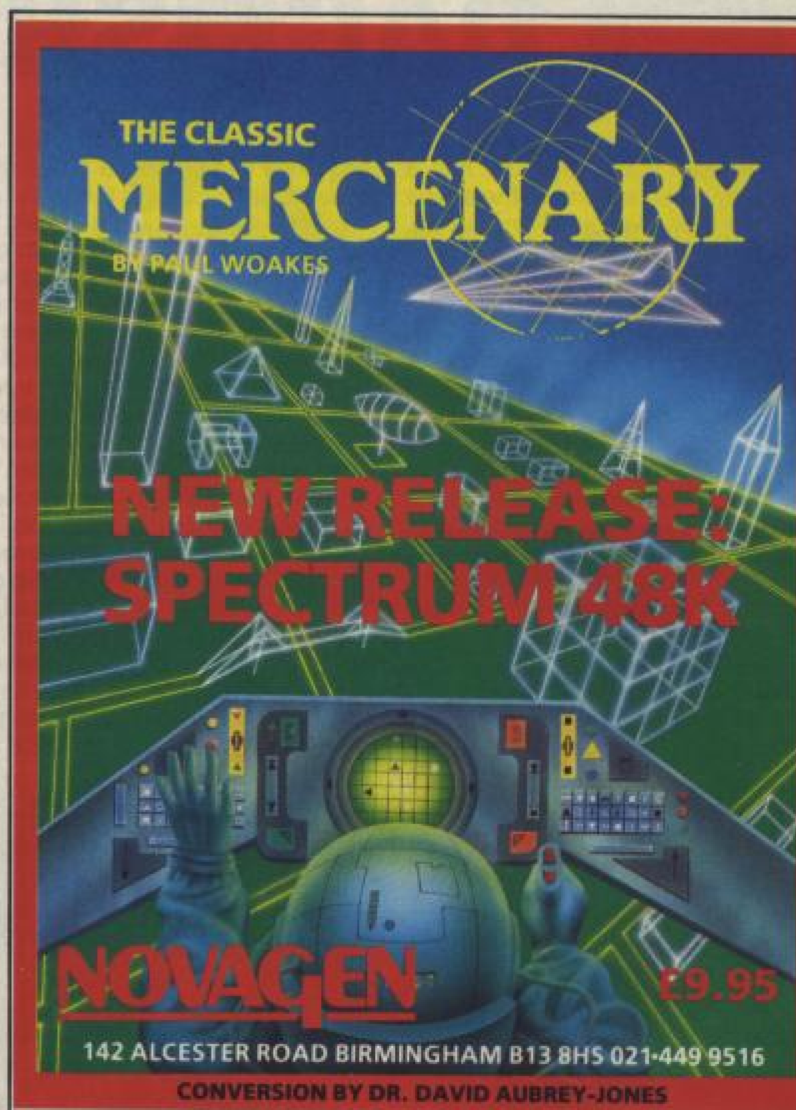
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There are two firms battling it out for the top end of the micro games market in 1987 – Commodore and Atari. As these two gladiators have been locked in this duel for almost ten years now, it's no surprise that you have to dig a little to find out what's really going on. Despite all the hype, it's a small world in the micro industry, as veteran micro columnist and 68K-coder Simon N Goodwin explains, before pointing out some of the essential differences between 16-bit and 8-bit machines . . .



THE DUEL

Atari was started by a visionary called **Nolan Bushnell** who, among other things, invented the first arcade console, *Space War* in 1972. The Corporation thrived in the late '70s and early '80s, with two products which dominated the home market for several years: a home console system called *VCS* and the Atari 800 home micro. Bushnell sold out to Warner Bros, the film giant, and set up a robot firm, Androbot, which has yet to hit the big-time.

Things went downhill at Atari during the '80s. The box, memory and codename of the machines changed, but there was no new system. Atari seemed afraid to abandon their software base. **Jay Miner**, the designer of the 800, left to work for a new company, Amiga Corp, developing a system based on the latest processor chip made by the vast Motorola corporation – the 68000 (a product which was later followed by a family of sound-alikes – 68008, 68010, 68020 and the latest whizz, the 68030).

Atari funded the Amiga project for a while, but lost interest as it developed from Miner's original vision of 'a low cost games machine' into a prototype all-singing, all-dancing techies' dream computer. Incidentally, in case you're wondering, Amiga means 'girlfriend' in Mexican!

Atari funded the Amiga project for a while, but lost interest as it developed . . .

COMMODORE

The company that cut up Atari's world market was Commodore – a typewriter firm that moved into calculators in the '70s, and launched the Commodore PET, one of the first three mass-market micros, in late 1977.

The PET was before its time. It had little potential for games, whereas the Atari 800 was colourful, noisy and fun. For obvious reasons, the Atari rapidly eclipsed the PET as a home machine when it arrived at the turn of the decade.

Commodore were determined to beat the Atari 800, and they managed this with two machines – a cheap, solid-looking system called the VIC-20, and the Commodore 64, which out-gunned the 800 in several respects, even though it copied three of its worst ideas – the external power-unit, non-standard cassette deck, and the slothful 'serial' disk drive.

PRESS ANY KEY

PROCESSOR PROGRESS

So far all these machines – PET, VIC-20, 64 and Atari 800 – had used the same central chip: the 6502, invented by a former Motorola employee, **Chuck Peddle**. Peddle also sold chips to Apple, invented Commodore's PET (to use his processor) and designed the Sirius 1, a business machine that laid the foundations for IBM's rather less imaginative PC.

Peddle's 6502 was a 'distant cousin' of Motorola's early 8-bit 6800 chip. In fact two closer relations, the 6500 and 6501, were also produced, but vanished quickly pursued by copyright lawyers from Motorola!

It was natural for both Atari and Commodore to take an interest in Motorola's 'new generation' of 68000 processors, despite their boringly predictable numbers. Apple had already used the 68000 in its powerful but pricey *Lisa* system (the most obvious use of the Lisa system these days is its positioning of the little fluffy clouds on your TV weather-forecast).

1984 – NEAR MISS

At the beginning of 1984 the race to take advantage of Motorola's new chips started in earnest. Even the British had a go. In 1982 Clive Sinclair had been toying with the idea of a 'Super Spectrum' based around the 68000 chip. Like Atari, he coasted on the success of his 8-bit machine for a while, but in 1983 he needed some way to raise money to make electric cars – a project which had been an obsession of his since the '60s.

Commodore were determined to beat the Atari 800, and they managed this with two machines . . .

Clive (as was) set the cause of home gaming back a couple of years by deciding not to threaten the Spectrum market, but to aim his next bombshell at 'serious' users. The QL, or Quantum Leap, was the result, launched in January 1984 amid vast amounts of expensive hype for Motorola's new chips.

Unfortunately the machine was launched about six months before Sinclair Research finished designing and programming it – apparently Clive panicked when he heard that Apple were about to launch an inexpensive 68000-based system, the Macintosh, into the same market niche.

Since then, Alan Sugar has proved that technology takes second place to marketing: his unadventurous PCW machine has all but sewn up the 'naive and serious' end of the UK market.

When it was finished – or at least got as close to that state as computers ever get – the QL turned out to be a good machine, but it was never well-suited to games. A compatible follow-up, CST's *Thor*, is still selling unobtrusively, and a souped-up version, Sandy's ominously-named *Futura*, has been due 'tomorrow' for several months now.

If and when it turns up, the Futura could be a strong European competitor for the ST and Amiga – it can do some tricks even the Amiga can't: how about mixed-mode overlaid circular windows?! Time and marketing will tell, but in the meantime the main benefit of Sinclair's Leap is that it has given Europe a large fund of experienced 68000 programmers, while American hackers dallied with obsolescent IBM clones. The Apple Mac was deliberately aimed at workers, not players or programmers.

1985 – ALL CHANGE

Things got rough at Commodore board meetings in 1984, despite the waning success of the VIC and the rise of the 64 after a slow start in Europe. Jack Tramiel and his family were thrown out of their own firm just as Warner Brothers despairingly announced record losses for Atari. At this point things got really incestuous . . .

At the beginning of 1985 Jack Tramiel (ex-Commodore) bought Atari. Meanwhile Commodore bought the rights to the Amiga project from Jay Miner (ex-Atari). This naturally

THE AMIGA AND THE ST COMPARED

What of the machines themselves? It's hard to get a good idea of their relative merits from the hack press, who tend to swallow anything Uncle Jack tells them (especially if they're given a free computer). The Amiga is a much 'deeper' design than the ST, with more tricks and treats up its sleeve, but it will be years before commercial software writers master them all – as it was with the relatively trivial Atari 800 from the same inventor.

The ST is a competent, fashionable, modern design. Gary Penn compares it with the Sinclair Spectrum in 1982, albeit much more powerful, five years on. It's the state of the art in mass-produced chips from big firms, wrapped up in a stylish box.

The programmers I spoke to had several technical reservations about the ST, although they admitted that it was going to take a long time to get to know all the intricacies of the Amiga.

Both the ST and the Amiga were released before their built-in software was finished

The advantages of the Amiga stem from its custom chips, rather than the 16-bit processor, which in fact runs slightly slower than the 68000 in the ST. In operation the Amiga seems a lot faster and more flexible because the custom chips have been designed to take over the operations which 'slug' the processor of a more conventional system.

The Amiga's clever operating system, developed in Britain, can run several programs at one time. This feature is fun to play with and makes the system very friendly, but it's not particularly relevant to the entertainment market – games tend to gobble up all the resources they can grab.

The ST has a rather pedestrian disk system, which handles large files disappointingly slowly. It's a version of 'GEM', the 'Graphics Environment Manager' used on IBM clones like the Amstrad PC, which is an advantage if you've used that already – one small snag is that the Atari version gives relatively little support to graphics printers.

The Amiga system, called 'Intuition' manages to be both intuitive and idiosyncratic at the same time. It can be a bit of a pain to use on a single-drive system, because it often asks you to swap disks, but that's more a reflection upon the range of things it lets you do than the capacity of the drives – each Amiga disk holds 880K of data, whereas a standard ST disk holds 360K. 720K Atari drives are now available, but commercial programs still use the 360K format, so that some ST games must be loaded in sections from two disks.

The Amiga has lots more colours, which makes a clear difference to the appearance of graphics. Andrew Braybrook pointed out that the 512 colours on the ST do not include dark shades. He even finds the 4096 colours on the Amiga a bit limiting, although they allow much more subtle shading. Jay Miner plans to allow even more varied colours on future Amiga systems, without making programs incompatible.

The Amiga can produce high-quality four channel sound. The sound circuits work in much the same way as the Fairlight synthesiser, often used by Peter Gabriel and *The Art of Noise* among others. Basically this means that you can record or synthesise any sound, in stereo. The ST can only offer noisy sampled recordings, or tinny computer-tunes played in three part harmony through a simple chip like the one used in the Spectrum 128 and old Amstrad home machines.

The ST can get around this limitation if you've got a modern synthesiser, because it includes a standard MIDI (Musical Instrument Digital Interface) port – a feature which is only available as an add-on extra for the Amiga. The large amounts of memory on both systems makes them well suited to MIDI control.

The ST lets you use any 32K chunk of its memory for display information, whereas the Amiga display and other custom chips can only access the first 512K. Apart from this restriction, the Amiga display is far more flexible – for instance you can move eight 'sprite' patterns over the display without having to re-draw the background, and 'collisions' are detected automatically. The Amiga also lets you scroll the screen smoothly in any direction, whereas this is very tricky and processor-intensive on the ST – especially if you want smooth horizontal movement. The difference will be most noticeable in games such as *Gauntlet*, which has already arrived for the ST and is a super-accurate conversion from the arcade machine with a single exception: the ropy horizontal scroll.

It's early days yet for both the Amiga and the ST. 'Nobody's really pushing either machine yet', commented Andrew Braybrook, 'but you get what you pay for.'

caused a good deal of confusion and work for lawyers, but in the meantime Tramiel was able to keep Atari ticking over by selling off vast stocks of old machines.

This chaos, and a measure of market saturation, sent Commodore on a dive, only recently reversed thanks in great part to sales of IBM clones in West Germany. The Amiga was coming . . . but it wasn't finished, and its inventors were not going to emulate Sinclair's QL team after such a labour of love.

AMIGA

When the Amiga did turn up, in the middle of 1985, Commodore were pre-occupied only with survival. They couldn't afford the up-front cash to launch a mass-market machine, so they priced the Amiga high and decided to sell it as a mixture of a business machine and the ultimate executive toy.

Luckily the developers from Amiga made loud noises to the press, and the machine was widely recognised as both an entertainment virtuoso and the technical Quantum Leap which Sinclair had tried for. The Amiga was hailed as the first really innovative micro since the 1977-vintage Apple II.

Of course, the only people who really care about such things are techies, and they don't create a mass market. Jack Tramiel could, and has done. Within weeks of the Amiga launch he announced the Atari ST – a direct, and much cheaper, competitor.



Jack Tramiel

TRAMIEL'S ST

At that stage Atari's main assets were its name and that of Tramiel himself. The ST hardware design was claimed to be underway when Tramiel arrived, but – even if that's true – there was little else.

Software was needed to run the disk drive and other ports which the ST would need to match the Amiga. CPM/68K – a translation of the old, crude 8-bit operating software that few except Amstrad use today – was bought off-the-shelf. It was re-named TOS – Tramiel Operating System – to add credibility. A 'friendly front end' called GEM (Graphics Environment Manager) was duly imported from IBM systems to complete the set.

The operating system supplier, Digital Research, was also asked to supply a BASIC programming language for the ST, but the whole bundle was being put together at Warp Factor Nine and they couldn't get it done in time. They ended up buying a rather shaky BASIC written anonymously by a Bristol student in his summer holidays. The exact source of ST BASIC has been kept very quiet until now, but you may guess that it came from Metacomco – the British 68000 specialists who wrote Amigados, the Amiga's operating system.

The original rushed version of ST BASIC has since been tidied up by Digital Research, and Metacomco have a new ST BASIC in the works. There are now lots of very fast BASIC compilers for the ST – Terry Wogan plug time: including one of mine – but in the early days an extremely erratic ST BASIC was the only way customers could tell the machine what to do.

DEVELOPMENTS

Both the ST and the Amiga were released before their built-in software was finished. Early systems came with 200K of code on disk, and you had to load the lot before the machine would talk to you. At the launch of the ST, Atari promised 128K and 256K versions, but neither turned up for obvious reasons. Customers have found it useful to draw a distinction between Atari announcements and Atari products ever since. Nowadays both systems have been largely debugged, and are supplied built-in to the computer, rather than on disk.

So far, Atari have the edge in terms of marketing. Right from the start, Tramiel rented vast areas at computer shows, sharing out the space among third-party suppliers. This upset some show organisers, but it encouraged the support industry that is the key to successful micro marketing, and gave the impression of vast resources at a low cost.

Despite the hype, the ST is well-known to be a much simpler machine than the Amiga. I've summarised the main differences in the panel.

Atari have set out to compete by 'souping up' their original machine in several ways. It was easy to build systems with extra memory on-board, and a disk drive with twice the capacity of the original 360K unit. But the Amiga includes a powerful chip called the 'blitter' which can move patterns around memory at great speed without slowing down the processor. The ST has to move information through the processor, and this often creates a bottle-neck.

Earlier this year Atari announced their own blitter, but it has not yet filtered down to customer level. It's much simpler than the Amiga unit, which can move and transform any 'shape' in one step. The Atari unit can only move or filter rectangular areas, and it's said to crash if programs try to communicate directly with the screen memory – instead of using the (normally slow) methods built into the system.

Graftgold's cult programmer Andrew Braybrook points out that these upgrades are of limited use in professional programs, "software writers aren't going to make use of the Atari blitter, because they can't be sure that users will have one." The same, sadly, goes for the big disk drive and extra memory, at least until they swamp the number of older systems.

Commodore have, at last, responded to criticism of the high price and business slant put upon the original Amiga. Two new models replace the original A1000. The A500 is a lower-priced all-in-one version, aimed at the home market, where the Amiga should have been targetted all along; the A2000 is a new up-market version – promoted as an absurd combination of Executive toy and PC clone.

FUTURES

The future appears bright for both machines – as both Atari and Commodore seem to be taking this new entertainment sector seriously. The Amiga looks best, but there's more support for the ST and it's cheaper. Many of today's 'amazing' Amiga demos reflect the attitude of the programmer more than the potential of the machine, which is still largely untap-

. . . the developers from Amiga made loud noises to the press, and the machine was widely recognised as both an entertainment virtuoso and the technical Quantum Leap which Sinclair had tried for . . .

PRESS ANY KEY

EIGHT BITS GOOD – SIXTEEN BITS BETTER!

. . . a crash course in computer oneupmanship

Digital computers store information in groups of 'bits'. A bit is a electronic memory cell which can either be full or empty, but nothing in-between. The first home computers were called 'eight bit' machines, because they were happiest working with groups of eight bits at a time. They could do simple tricks, like adding groups, collectively known as 'bytes', comparing them, moving them around and so on. A bit might indicate a YES or NO answer, or whether a dot on the screen is bright or dark, or anything else you want to record.

Eight bits was often a convenient number. If you write down all the combinations of eight bits, writing '1' for 'full' and '0' for empty, you'll get bored because there's quite a lot of them – 256, to be precise. It's easy to make up a code that will let you store letters of the alphabet, digits and punctuation marks in eight bits, and thus the computer can appear to manipulate written text.

Arbitrary numbers are a bit trickier, because 0 to 255 is not a very wide range – so programmers often have to arrange strings of bytes to represent large quantities, and use lots of simple steps to manipulate the strings, piecemeal.

LAUGHING

At this time programmers on big 'mainframe' computers were rolling around the floor laughing, because their machines worked with larger groups, called 'words' – sometimes 16-bits, sometimes 24, 32, or even more. This often made them a lot quicker and easier to use. Computers use similar groups when keeping track of their memory, and it generally followed that a computer with bigger words could cope with more of them.

In the late '70s, microchip-makers were pressured to produce 'more powerful' chips capable of working with larger groups of bits. The result was the '16-bit micro'. Alert advertising copywriters realised that all the people with home computers had only got 8-bit micros, and reckoned that there was a good chance that they'd 'upgrade' to a '16-bit' one, especially if the advantages – bigger, more, better, faster – were suitably stressed.

So the 16-bit micro became the 'in thing'. It has taken a while, because 16-bit machines are more intricate to build and program than their predecessors, and as usual no one allowed enough time for getting used to the new way of doing things. A 16-bit micro can work with more data at any one time, and can control a larger total amount of storage. It can also do complicated things like multiplication and division, which most of the 8-bit chips have to do step-by-step, adding or subtracting as a human might do with pencil and paper.

Such extra instructions are useful, but every instruction must have its own number, so programs for versatile chips are often longer than programs for simple chips that can use shorter instruction codes.

ANOTHER DUEL

There are two main 'families' of 16-bit processor on the mass market – one made by Intel, a company owned by IBM, and another made by Motorola (who are big enough to own themselves). The Intel version came first and is generally considered rather nasty – though it does work quite quickly, and has a few good features. These chips (the 8088, 8086, 80186, 80286 and so on) are used in IBM computers. Since most business computers in the world are made by IBM, or are copies of IBM models, Intel processc~s dominate the commercial world.

Home computer firms waited for the Motorola chips, which are easier to program and, in many ways, better designed. These come in a family with five-digit numbers starting with 68 . . . the first was the 68000, used in the ST and Amiga. Then came one designed to use old 8-bit memory – the 68008, used in Sinclair's QL. Newer versions are the 68010, 68020 and – just about ready – the 68030. The last two are really 32-bit chips, but they can run the same programs as earlier versions, because the 68000 family was designed from the start to use 32-bit values internally.

So, what's the difference between an 8-bit and a 16-bit micro? It depends entirely upon what you're trying to do. If you're working with a small group of characters, or other values that fit in eight bits, then a 16-bit processor won't help much. That's why Amstrad's PCW word-processor can get by quite happily with an 8-bit chip. But if you're using 16-bit values (say, scores, or co-ordinates from 0 to 65535) a 16-bit processor may be much quicker – between two and eight times faster, depending upon what you're doing.

There are other reasons why a 16-bit processor may be faster than its 8-bit predecessor. It can often do in one step what the 8-bit model had to do piecemeal – complex multiplication, for instance. The 68000 can read and write values to memory in one step, whereas older chips could only do one or the other. These advantages come because the chip designers have sweated for longer, and used better tools to design and make the chip. You pay for all that effort, of course.

SPEED FREAKS

Why all this concern about speed? Speed doesn't just make games more exciting – it can allow more things to happen in a given time, giving more effects, or a better simulation. The extra memory that a 16-bit chip can handle means that programs, maps and so on can be bigger. Again, you must pay for the extra work.

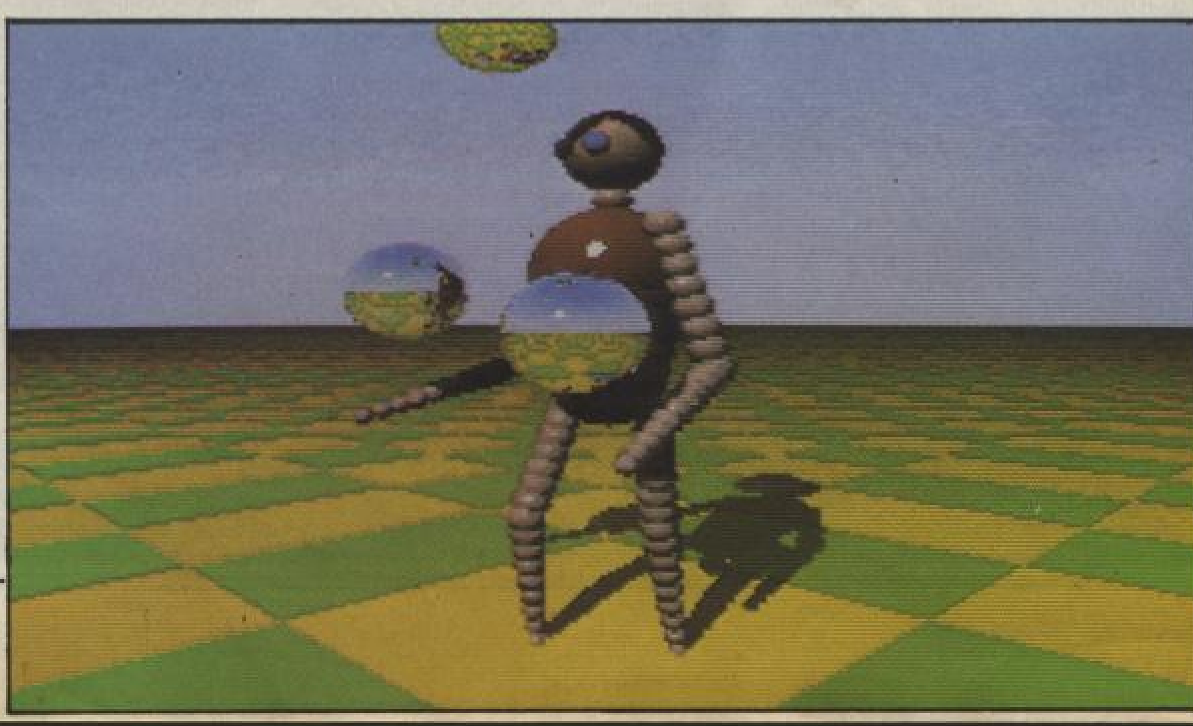
One snag is that the speed of memory chips has not increased much, although their capacities have grown, so computers may work slower than expected because of 'wait states' – delays inserted to let the memory catch up. Manufacturers are very secretive about these, but most computers use them at times, and the only way to tell their effects is to use the machine for lots of different things, and see what happens.

Every computer has a timing pulse, called the 'clock', which is used to synchronise each step. Sometimes advertisements boast about the speed of this clock, which is usually measured in 'MHz', or millions of pulses per second. Unfortunately different types of processor use a different number of pulses between each step, so the 'clock speed' of a computer may not tell you much, on its own.

. . . different types of processor use a different number of pulses between each step, so the 'clock speed' of a computer may not tell you much, on its own

ped – those demos could be converted to run pretty well on the ST, but, in time, the Amiga will throw up new effects that the ST could never manage. Atari 800 software developed amazingly in five to six years, and Amiga product life will probably be much longer.

And what about the hype . . . is it really worth selling your 64 or Spectrum to join the 16-bit rat-race? Well, the potential is there, although current software is just testing the water, especially on the Amiga. But beware – it's still quite possible to write rotten games in 512K with 4096 colours. The key is to read THE GAMES MACHINE; when really amazing things start to happen – and they're starting – we'll be right there. Join us!



SOFTWARE FOR FREE – Well, Almost . . .

Jeremy Spencer starts his travels through the Public Domain and explains what Shareware is all about.



With the possible exception of a small plastic baking powder-powered submarine that I once received, I was a firm believer that nothing worth having was free. However, like so many other things, this rule doesn't seem to apply to computer users. We live in a very different world, a world in which you can part with an arm and a leg for a program, only to find that your smart-alec friend acquired something else, which does more, faster . . . and for nothing. How?

Programmers are rather like artists – they have a skill which they like to demonstrate, share if you will. Further, they feed from like-minded people. A programmer who has just written a particularly ingenious piece of code can't wait to show it to friends. Invariably, the code-writer gets more than a pat on the back – other programmers take the ideas contained in the new code they've been shown and expand them, add their own routines, and generally 'race tune' the entire concept. Before you know it, a complete program emerges, which could be anything from a humble disk editor to a word-processing system.

It's in the nature of programmers to shut themselves away in closets, denying themselves the company of others. So they use a technique unique to the computer world and get together while avoiding the normal tedium of meeting people. In America – where telephone charges are low and high-speed modems litter the pavements – they send each other little messages via bulletin boards, computers which do nothing else but receive and dish out messages. Programs can also be passed round in the same way: a programmer in New York can leave his latest development on a board in Los Angeles and expect to get a disk full of adulation the next day – without even leaving his bedroom.

In this way the system of Public Domain software began to evolve – the 'domain' is a series of computers dotted around the world, stacked with other people's programs waiting for anyone who has a modem to download them. Of course the quality of Public Domain software varies enormously – some of it is brilliant while the rest is pure rubbish – but that's also true of commercial software, the only difference is that poor commercial software leaves you unsatisfied *and* out of pocket.

Public Domain software has developed a lot since its early days. Some authors have found that they can use the efficient distribution system to their advantage, and make some cash from their efforts without going through the risky and complex process of trying to market their software through traditional retail channels.

. . . by comparison commercial utilities are well overpriced

TRY BEFORE YOU BUY . . .

Shareware probably began when authors placed programs in the Public Domain and asked for donations from those who found the free software useful. Donations were sent and the idea caught on to the point where the system became formalised. Users are free to copy Shareware software and pass it around – in fact it's essential that people should do just that, other-

ATARI ST

The PC and its clones lead the field in terms of the quantity and quality of Public Domain software available, but the ST scene is reminiscent of the early PC days – ST libraries that exist at the moment are run by talented and enthusiastic amateurs, and both games and programming aids feature strongly, with no shortage of pictures and useful utilities. The strength of the ST in Germany is reflected in the software available – much of the Public Domain material around originated in Germany. ST owners are presented with an ideal opportunity to brush up on their German reading. The CP/M emulator for the ST also means that much of the CP/M Public Domain material is relevant.

Atari Public Domain software tends to complement the resident GEM operating system well – there's a host of **.ACC** programs – you know, the things that load themselves on start-up and appear under Desk Top – clocks, diaries . . . you name it.

RECOMMENDED

ARC is essential, since much of the Public Domain material comes in a compressed format – saving disk space and phone time, but only ARC can set it free.

RMD208 – in fact any ram disk, but this one stopped me going completely nuts. I had forgotten what it was like to have a computer with only one disk drive. Copying files was such a pain – until I discovered RMD208.

FOREIGN AFFAIR – yes it's Mike Oldfield's classic track in digitised form. There just isn't a better way of showing off the musical capabilities of my Atari. What fun I had watching the faces drop!

KRABAT CHESS – every computer should have a chess game just to show how smart it is. This is a good as any, but wins on value for money.

DISKMAN – provides a whole range of utilities to keep your disks under control. Essential and very easy to use – a sort of software parachute.

HACK – a superb text and semi-graphic adventure game.

ST CONTACTS

THE SOUTH WEST SOFTWARE LIBRARY
5 Barn Owl Way
Stoke Gifford
Bristol
AVON
BS12 6RZ
Send SAE for catalogue
Typical charge £3.50

ST UK
2 Marina Gardens
Cheshunt
Hertfordshire
EN8 9QY
Typical charge £2 – £2.50



COMMODORE AMIGA

In America there is a much wider range of Public Domain software and Shareware for the Amiga than there is for the Atari ST – but in the UK, suppliers are few in number.

Shareware registration prices tend to be a great deal lower than those for the PC – but the software tends to be much more hacker-orientated. With the Atari ST, the GEM environment is commonly used – its Amiga equivalent, Workbench, is not so widely supported, so you should be prepared to use the less friendly Command Line Interpreter. The range of business programs available is excellent: the normal *Lotus 1-2-3* and *dBase* clones are all on offer.

If you can afford the MS-DOS compatibility you should also have access to the PC-DOS libraries.

CONTACT POINT

ICPUG
30 Brancaster Road
NewBury Park
Ilford
IG2 7EP
01 346 0050
01 579 1229

wise the distribution dries up. Once a user moves beyond just trying the software and starts using it, the program should be registered – registration fees are generally pretty small – ranging from £15 to £75, in return for which the user gets the legal right to use the software, technical support and, frequently, a properly printed manual.

Shareware feels very different to ordinary Public Domain software. A lot of Public Domain software looks like it was written by a hacker, and generally only other hackers can get to grips with it. Shareware is generally much easier to use – the command sequences tend to be designed with the novice in mind, and help screens are usually built-in. After all, no-one will use a program that they can't make head nor tail of, so instructions (or documentation) tend to be full and succinct. More significantly, while Public Domain software usually carries an implicit invitation to improve on the code, this is certainly not the case with Shareware. The last thing a Shareware author wants is a total stranger messing around with his code. It's hard enough for an author to keep track of his own bugs – never mind those put there by other people!

MILLION DOLLAR MEN

Two Americans, **Bob Wallace** and **Jim Button**, are generally regarded as the fathers of Shareware, and it's a measure of the success of the system that both of these men now head million-dollar companies – due mostly to a neat refinement of the Shareware concept which has all the mass appeal of a chain letter, but without the sting. The concept is both elegant and simple . . .

People who register with Wallace or Button are sent programs bearing a unique serial number. Users pass on copies of programs to other potential users who, with any luck, also register and quote the serial number. This may then be traced to the original holder, who is paid a commission. The new user then receives a serial number and the chain carries on. In one neat move an incentive is provided not only to encourage the user to register, but also to encourage others to do the same. The incentive is not trivial: employees have introduced Shareware into a large companies and made tens of thousands of dollars as a result!

Shareware is now a widely-accepted form of distributing software in the States that avoids all the hefty marketing and publicity bills which companies like **Micropro** and **Ashton Tate** have to meet. In the UK, though, it is badly supported. Sure, you can get copies of just about every Shareware program available in the States, but either we Brits aren't so honest (as a flag-carrying patriot, I find that hard to believe) or people just can't be bothered to go to the trouble and expense of sending money to the States when the only tangible benefits are a manual and technical support – phoning America to find out how to get *PC Write* to print justified text is a bit much. Sad really, as American authors are being denied their dues and we aren't getting our hands on the latest product from what is undoubtedly a source of superb software. Changes are afoot though, and we plan to keep you fully informed in future issues.

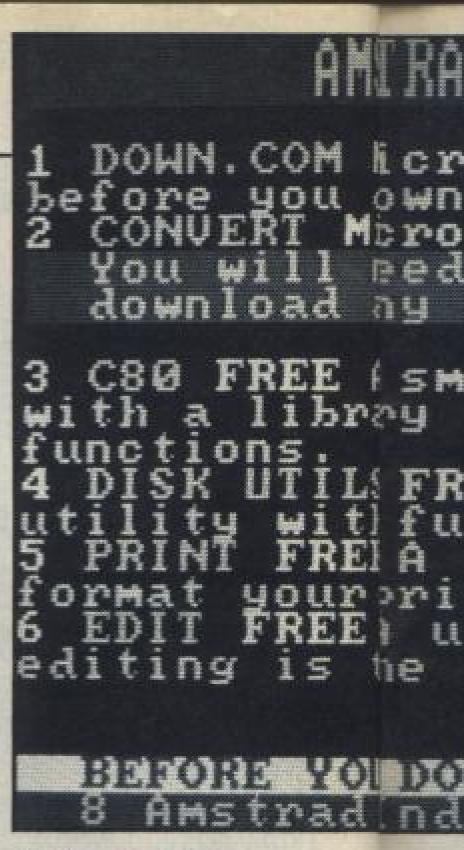
A programmer in New York can leave his latest development on a board in Los Angeles and expect to get a disk full of adulation the next day

CHEAP WRITE-OFF

There is a temptation to write off Public Domain and Shareware software because it's free or very cheap. Avoid the temptation. The quality will surprise you – a few programs have been taken up by publishers in this country and marketed in the normal way. For instance, **Sagesoft**'s *Word Processor* is in fact Bob Wallace's *PC Write*; admittedly, the version Sage sells has a few more bells, but not enough to justify the price difference – Sage currently sell *PC Write* for £99 while Wallace only charges a registration fee of £75. See how avoiding advertising and distribution costs benefits the user?

GO EXPLORING

It isn't just the quality of software on offer which makes the Public Domain worth exploring. Once you become an experienced Public Domain voyager, you discover that the standard operating system supplied with your computer is pretty tame. For instance Gem, MS-DOS and CP/M all provide very efficient ways of deleting files, but none offer any help in recovering from accidental deletions. Tools which can unerase files, edit disk sectors and do all manner of other things are known as utilities. For reasons beyond my comprehension, utilities are poor sellers but they are indis-



Micronet offers a host of interesting material to subscribers – as this screen offering details of Amstrad software illustrates . . .

The quality will surprise you – a few programs have been taken up by publishers in this country and marketed in the normal way

CP/M COMPATIBLES

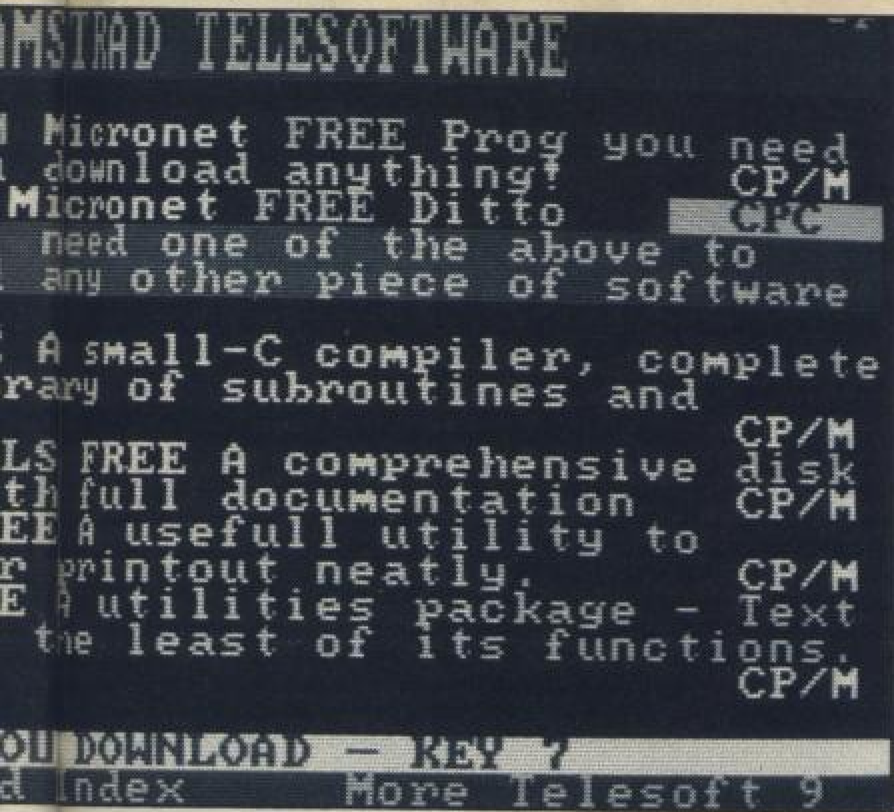
There is so much software for this beast that some people devote their lives to cataloguing it and dishing it out. Generally pretty weak on games (they are mostly written in BASIC and tend to be grotty), with hardly any art, the CP/M scene is almost entirely built around clever utilities – which accurately reflects the history of the Public Domain. There are hundreds of accessories for CP/M, including famous names like *Wordstar*, *New-Word* and *dBase* – if you use any of these serious software systems you should check out the Public Domain utilities. You will be amazed what some utilities can make *Wordstar* do! CP/M was and is the true hackers delight. Unfortunately there's no Shareware.

RECOMMENDED

UNERA19.COM – idiot saver. Recovers files deleted by accident.
RPIP.COM – file copying utility which is easier to use than PIP and offers more.
DU-V86.COM – gives complete control over disks – with this tool you can do just about anything with disks except make them breed.
LABELS4.BAS – a clever little label printer.
BANNER.COM – prints large headlines and signs.
ADV.COM – based on the original and excellent *Cave Adventure*.

CP/M CONTACT

CP/MUGUK
72 Mill Road
Hawley
Dartford
Kent
DA2 7RZ
Typical Cost £2 – £4
(Membership £7.50)



pensable. Okay, there are commercial products on the market, but they offer nothing special in comparison to the rich source of programs in the Public Domain – and by comparison commercial utilities are well over-priced.

The Public Domain is also fun – getting hold of software and discovering what it can do is entertaining in itself and with the price of software being what it is, who can afford to build up a large and interesting library? But be careful – you can still end up paying too much if you don't source the programs efficiently.

SOURCES

The traditional way of getting Public Domain software is by linking your computer to another, using a modem to make the connection via the telephone network.

The three biggest dial 'em up services in Britain are *Micronet*, *Microlink* and *Compunet*. All three provide some means of sending software into people's living rooms down the phone line. *Microlink* offers what is perhaps the weakest range – most of their software seems to be written in BASIC, and it's generally uninspired and fairly unremarkable. *Micronet* provides a good service for Atari and PCW users, as well as for the hordes of 8-bit owners, and commercial programs for a wide range of computers are also offered for sale. An added advantage with Micronet is that user areas have been set up for specific machines, representing a useful on-line forum for the exchange of news and ideas. One of the main advantages of *Micronet* and *Microlink* is that they both support a very peculiar data transmission speed of 1200/75 baud, which means that you can receive data at high speed and save phone time without having to go to the expense of a 1200/1200 modem. Unfortunately, these services must be all things to all people, and consequently the range of software is somewhat limited. *Compunet* is a happy hunting ground exclusively for Commodore owners – Commodore 64 only at the moment, but an Amiga facility might well be on its way. Like *Micronet*, with which it has no links incidentally, *Compunet* caters for a wide range of interests.

All three services are commercially run and require a joining fee and subscription, but they provide a whole host of services and can be good value for money if used well. We will examine their role in a future issue.

ON THE BOARDS

Bulletin boards are so thick on the ground that I'm amazed that they aren't taxed. They come in all shapes and sizes – some specialise, catering for particular computers, while others concentrate on specific fields like law, medicine or as you may have read in the news, sex. Most are funded by dedicated individuals known as SysOps (System Operators), while some collect subscriptions and donations to keep going. Such enthusiast-run boards are the best sources of Public Domain software – the one I use gives access to a vast library that currently offers over 800 IBM PC titles, some 500 programs for CP/M machines, 200 for the Atari ST and around 100 for the Amiga.

Inevitably, you will find that your favourite bulletin board is not a local call away – which means that your phone bill might be higher than if you used *Microlink* or *Micronet* which have local access nodes and allow you to hook up to the service with a call that's charged at local rate. Independent boards are well worth investigating all the same, because the choice of software they offer is spectacular.

Bulletin boards are so thick on the ground that I'm amazed that they aren't taxed

PHONE-FREE PD

Not everyone is prepared to cough up the money for a modem and most people don't like paying telephone bills. Public Domain software can also be gathered by joining a user group where it is passed around on disk – and unless you're a closet-case programmer there's the added advantage of meeting people . . . If you don't fancy socialising to get your software there are always the Public Domain libraries that have begun to emerge. They provide Public Domain software from a catalogue and generally charge a fee to cover disks, administration and handling. Be careful – some libraries offer good value for money, operating in the spirit of Public Domain. Others are able to afford to place expensive double-page advertisements in magazines promoting themselves as user groups when in reality they are going concerns, making a respectable profit on every disk they send out. That isn't the way it should be done. Scour the press adverts carefully – if a library offers a catalogue, send an SAE and get one. It will give you a brief idea of what each program does, help you decide exactly what is useful and what isn't. When you've got a couple of catalogues you can shop around . . .

PC-DOS AND MS-DOS

This operating system is spoiled rotten for Public Domain goodies and Shareware – and so much of what's on offer is superb. No matter what your interest, programming, business, games, art or even music, there are mountains of good quality software to satisfy your appetite. As with CP/M, popular business programs are 'supported' by a host of enhancements. For instance, I recently found a list of worksheets for Lotus 1-2-3 . . . it took ten minutes to print out!

I must confess to getting a bit disgruntled by the degree of exploitation going on in this particular market, so chose your suppliers very carefully . . .

RECOMMENDED

PC PROMPT – prompts the inexperienced user in the correct use of DOS commands.
SWEEP – related to the famous CP/M utility – total control over disk files.
SPEEDKEY – superb little tool for making the cursor fly faster – indispensable if you have a slothful Amstrad PC.
BROWSE – allows you to quickly scroll (in four directions) though a text file without having to load it into a WP.
NOTEPAD – memory resident (can be called up even while another program is running) aide memoire.
PROCOMM – excellent Shareware communications program – though it can't handle Prestel type graphics or 1200/75.
PC–OUTLINE – shareware. Brilliant memory-resident word-processor and organiser.
TRIVIA – Public Domain version of that very silly game. Be warned though, this version is American, so you'll be at a disadvantage with at least some of the questions.
SIDEWRITER – prints ASCII files sideways.
AMULET – graphics adventure with 20 levels of play.

DOS-CONTACTS

PD SIG Software Library
90 Raybourne Close
Uxbridge
Middlesex
UB8 1UJ
Typical Cost £3.50 – £5.00
(Membership £21.85)

CP/MUGUK
72 Mill Road
Hawley
Dartford
Kent
DA2 7RZ
Typical Cost £2 – £3
(Membership £7.50)

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INTO THE WORLD WITH A

John Minson visits the Hewson nursery as a new software label is born

September the seventeenth will go down in computing history for two reasons. Not only is it the day that this very first issue of Games Machine hit the streets . . . it also marks the birth of a brand new software label.

So crack open another bottle of champers because, after more than five years in the business, **Hewson** have decided that the time is right to start a family. The name of the infant is *Rack- It* and from all indications it's going to be a bouncing baby.

But before you break out the cigars there's something else you should know about junior . . . he's a bit of an infant prodigy who aims to take the market by storm, even though he's only knee high to the 'full-price' titles.

So let's cut the corn and ask what has tempted Hewson to follow the budget path. It's a move that they've been considering for some time now, according to **Debbie Sillitoe**, who's in charge of the company's marketing.

They never really felt that the time was right in the past, but now the full-price 8-bit market is beginning to shrink and there's a general feeling that things will get even more shaky next year as the 16-bit wonders establish themselves.

OPEN ARMS

So while Hewson will be approaching the ST, Amiga and PC with open arms, they don't want to neglect the machines which made them one of the most successful of the independents. Their belief is that the best way to stop Spectrums, C64s and CPCs being consigned to the back of a cupboard is to keep providing games, albeit at a 'pocket-money' price.

However Hewson aren't aiming at the £1.99 price point. Instead a Rack-It program will leave you with a penny change from three pounds. Apart from keeping retailers happy with a slightly larger profit margin, Hewson reckons that it allows them to release more sophisticated programs than a rock-bottom range can.

The company has always prided itself on the consistency of its titles though, and it doesn't intend to let a cut in price mean a cut in quality.

While they will still be publishing their own top in-house programmers, and games from leading lights such as **Steve Turner** and **Andrew Braybrook** on the full-price label, Hewson now have an outlet for the many submissions that arrive at their offices every day. Though such games may not merit a £10 tag, they are great value at less than a third of that price.

Of course Hewson aren't the first 'full-price' company to attempt to break into the budget market – one or two others have come notable croppers because sales techniques are very different when you're bulk selling in the impulse-buy marketplace.



"The idea is to establish ourselves in a second market – it is apparent that games are developing in two different directions. We're aiming to push up the quality of the budget market" Andrew Hewson

Hewson shouldn't have problems in this area though. They've come to an arrangement with budget impresarios **Mastertronic** to handle the selling side, leaving them free to seek out the potential winners.

PUDDING PROVED

The Rack-It packaging is sophisticated, mainly monochrome, and very attractive. But the proof of the pudding lies inside those black cassette cases. Luckily I was allowed to take a look at four of the first releases when I visited the company.

Tunnel Vision is a clever one or two player race-and-chase game, which combines subterranean racing round one of five courses with a ball-catching game, all seen on a split screen. Due to appear on all three major formats before long, *Tunnel Vision* is a fast-moving contest which reminded me slightly of *Ballblazer*.

Draughts Genius is a much more laid back affair, for the Spectrum and Amstrad. Though there's a plethora of chess programs, draughts seems to have been somewhat neglected – unjustly on this showing!

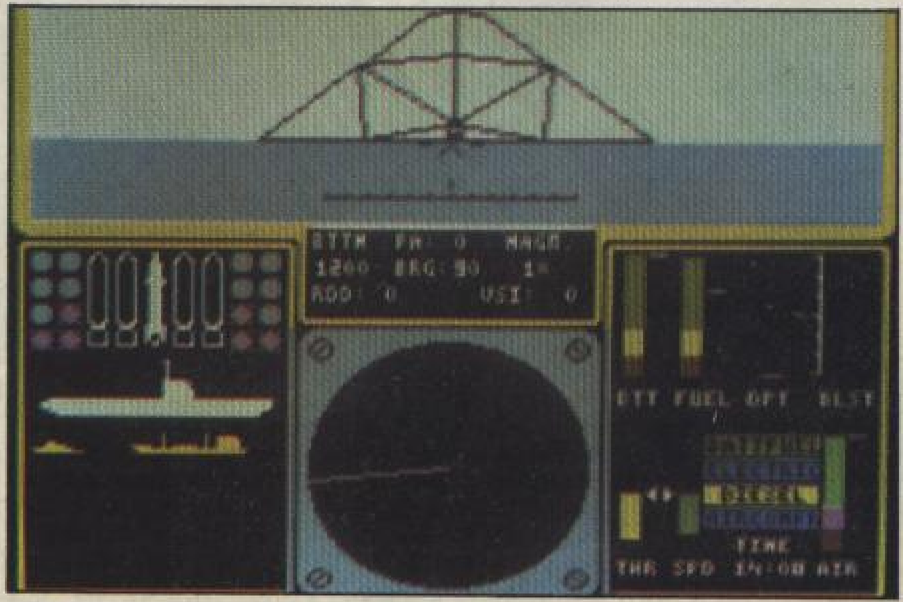
Not only is the game simple to learn and lots of fun to play – the presentation is brilliant. It features an animated credits screen, complete with dancing programmers and Albert Einstein as an opponent. Take too long and he yawns and eventually nods off!

Ocean Conqueror, on the same two machines, is a submarine simulation with vector graphics and all the complexity you'd expect of a simulation. The surprise is that it's so cheap . . . most companies would never consider such a sophisticated program at anything less than standard price.

But probably the best of the first releases that I saw is *Anarchy*, a shoot 'em up where you're gunning for the landscape rather than aliens. You have a limited time to blow up blocks, avoiding the roving nasties that can be frozen with a quick shot.

There's a catch to all this though . . . you have to be at least one block away from your target to shoot it, which means that the later levels call for some pretty tricky steering if you're to find the spaces. To my mind, it's a great game. Destined for all three major formats, it combines great graphics with a clever Steve Turner soundtrack.

The other titles are *Sunburst* on the



Amstrad and Spectrum simulation fans will soon be able to thrill to the undersea spills of OCEAN CONQUEROR, seen here in its Spectrum glory

Right: An early version of TUNNEL VISION on the Commodore 64 – the graphics are going to be tweaked before the game is ready for release

Right: The Commodore version of ANARCHY, the block-blasting game accompanied by a Steve Turner soundtrack. Due soon for the Spectrum and Amstrad



Pondering his next move, Einstein takes you on at Spectrum DRAUGHTS GENIUS



C64, *Powerama* on the same machine, and for any Spectrum owner who wants to get away from Meryl Streep, go *Into Africa*. Later in the year, look out for *Herobotix* on the C64 as well as *Super Cup* and and *Rex Harde* which should both be on the three major formats.

It looks like Hewson have got it just right with these first releases. A few years ago you would have marvelled at them, even at full-price. They all offer full play value at a fraction of the cost though. With luck, finished versions of the first batch of Rack-It games should arrive in time for us to take a closer look at them in the CHEAP THRILLS section in this issue . . .

Hewson aren't the first 'full-price' company to attempt to break into the budget market – one or two others have come notable croppers

The design concepts for the Rack-It packaging seen above used game names and illustrations just for effect

RACK-IT . . .

THE BUDGET MASTERS

Mastertronic was set up in 1984 by three people – **Frank Herman**, **Alan Sharam**, and **Martin Alper**. The first title the fledgeling budget label released was *Bionic Granny* for the Commodore 64, and to begin with the 'mainstream' software industry viewed the new enterprise, which sold games at £1.99, with some disdain.

Despite creating a company on All Fool's Day, the team behind Mastertronic have shown themselves to be anything but fools: in the past three and a half years they've released some 400 titles and achieved sales in excess of 12,000,000 units.

This year Mastertronic bought **Melbourne House**, adding it to the string of budget 'brands' already being published in-house: there's **MAD** – **M**astertronic **A**dded **D**imension – **Entertainment USA**, **Bulldog**, **Arcadia** (set up to produce full price conversions of Mastertronic's Arcadia coin-op games) and **Ricochet**, a re-release label that re-publishes golden oldies.

There's more to Mastertronic than home computer software though. The Arcadia team is writing arcade games for a single-board coin-op arcade system based on the Amiga 500, and plans are afoot to 'license' the arcade product to the home computer label. There's the Sega console and all the associated software, for which Mastertronic has acquired sole distributorship rights in this part of the world. And on the game front, the company also distributes **Americana** titles for US Gold. Now **Rack-It** titles from Hewson have joined the fold.

Just to round off the portfolio of activities, Mastertronic has a video label – **Mastervision** – and a £1.99 music cassette label – **Mastersound**. Not forgetting the Magnum joystick, of course . . .

Hewson have made a wise choice in selecting Mastertronic as distributors for their new range it would seem. Most Mastertronic titles achieve sales around the 50,000 mark, shifting over 30,000 units in the first three months of a title's life. About a third of all the games Mastertronic produces are sold abroad, through Mastertronic subsidiaries in France, West Germany, Italy, Greece and Belgium.

Maybe *Bionic Granny* actually works for them?

M.A.D. MASTERTRONIC ADDED DIMENSION





FULL-PRICE STEAMS AHEAD

Despite the effort that's gone into launching the new label Hewson aren't neglecting their full-price range. Far from it . . .

Andrew Braybrook has been jetting over to the States, where work is carrying on apace with the conversion of *Uridium* for the Amiga, ST and PC. Andrew's currently head over heels in love with Commodore's state-of-the-art micro – so much so that Hewson are having to make a special effort to remind him that there are other machines!

Meanwhile *Ranarama* is being converted and considerably enhanced for the ST. As well as better graphics and sound, designed to fully exploit the Atari, there will be sampled effects, including creaking doors and blood-curdling screams, and four additional screens to introduce the characters.

TOES WET

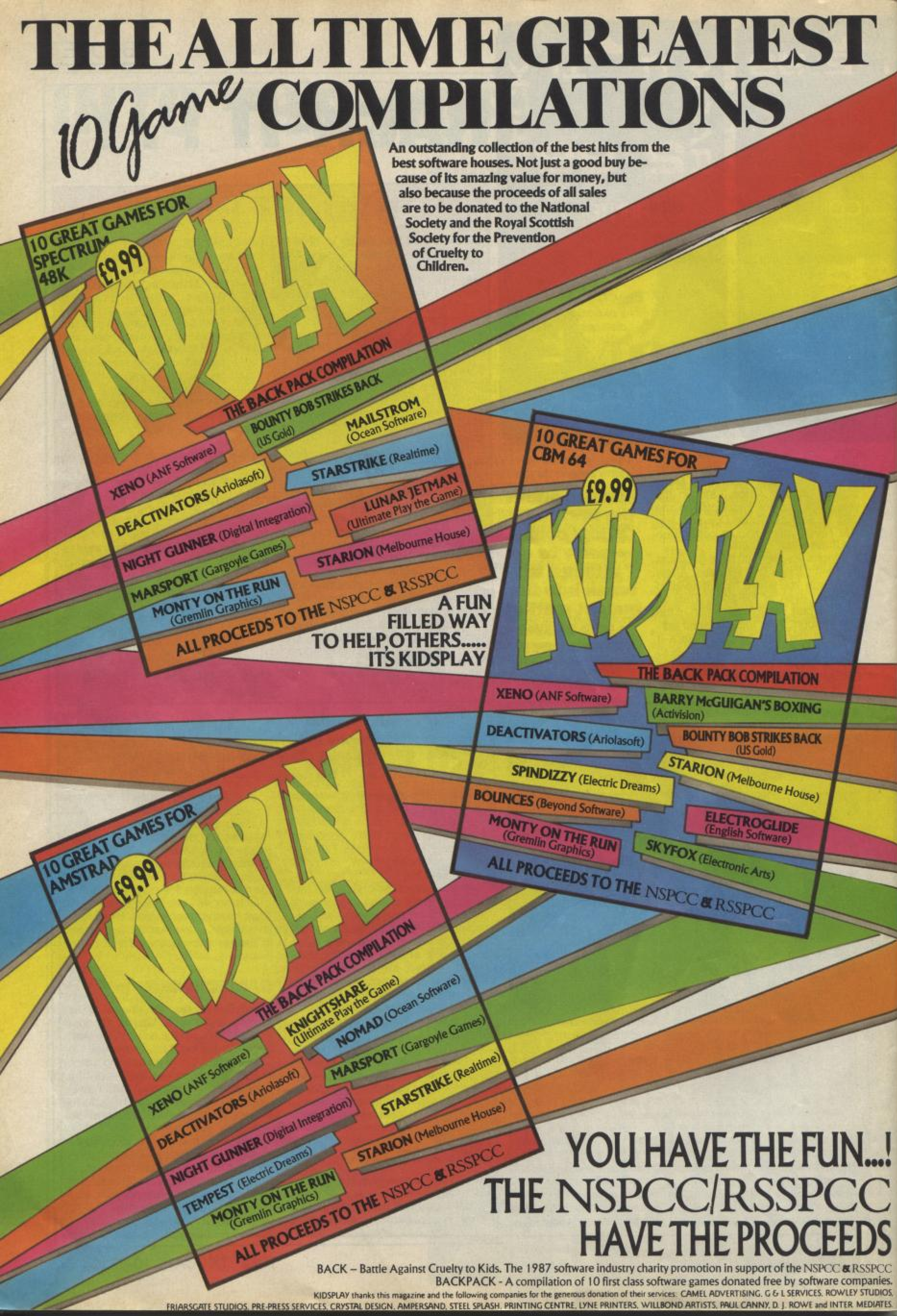
But while Hewson tentatively dips a toe in the 16-bit sea, they should also keep 8-bit owners happy with a heavy schedule of releases, including *Evening Star*, the sequel to runaway train success, *Southern Belle*, in September. This time the run is from Bath to Bournemouth, which should suit the more sophisticated railway buff.

October will see the awakening of *Morpheus*, a new Andrew Braybrook shoot 'em up dealt with in more detail in the reviews section of this issue. (Busy guy, Andy).

NAMECHECKS

Steve Turner doesn't intend to let Andrew gather all the laurels though. You can light up the skies in November with *Magnatron*, sequel to *Quazatron*, which features the same KLP2 droid, but does away with the jerky scroll. Transported to the platforms of the planet Quartech you have to locate and destroy reactors on eight 16-screen levels.

Looking further into the future there are new titles in the pipeline from John Philips (of *Impossiball* fame) and Rafael Cecco (responsible for *Exolon* and *Equinox*). For further details, stay plugged in to your favourite GAMES MACHINE!



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ACE GOES OVER THE EDGE

One sticky afternoon we sent our London bloodhound John Minson off on the scent of some shoot 'em ups, some wizardry, a sneak thief . . . and a cat called Garfield!

It's been all quiet at **The Edge** for some time. But suddenly, at parent company **Softek**, something stirred – and from the Covent Garden offices burst forth not just a whole host of new Edge titles, but also a whole new label . . . **ACE**, dedicated to arcade conversions and pure action.

RISK SEEKER

RISK (The Edge)
Commodore 64, Amiga, Atari ST

Would you take the risk of trying to tame an occupied planet single handed? It's all in a day's work for a member of RISK – a sort of space-age SAS, known in full as Reconnaissance, Interception, Seek and Kill.

Luckily you're dropped into an operations centre, to which you can return at any stage, but after that it's a solo mission. The first thing to do, after playing around with the computers that litter operations HQ, is take off in a skimmer and shoot up a few of the invaders and their robot minions.

Actually, the centre holds three skimmers – but just like real life the garage keys can't be found, so it's a case of making do until you can find a way to reach the more powerful craft. They're needed anyway, as well as access to the computer tool kit, if the alien power supply is to be destroyed.

At least you remembered to bring a map . . . sadly it's incomplete, so a little exploring is required. There are five basic types of landscape – deserts, vegetation, mines, tunnels and canyons, and they're all represented in fantastic detail with four-level parallax scrolling and different colour schemes for day and evening.

Delving deeper into the game there are some pretty amazing things to discover about the computer terminals, which descend from the top of the screen on hydraulic arms. They allow you to customise the game – to hack into it without resorting to machine code. At the simplest they can be used to do mundane things, like change the border colours, but they could also affect alien attack patterns.

Aimed at the thinker as well as the blaster, the Commodore 64 version should be out in September, with the Amiga *RISK* following month later, trailed by the Atari ST version due in time for Christmas.



COMMODORE 64:



COMMODORE 64: an example of the quality graphics found in RISK

FURTHER INTO THE LAND OF FAIRLIGHT

FAIRLIGHT II (The Edge)
Commodore 64, Amstrad CPC, PCW 8256

The sequel to Swedish programmer Bo Jangeborg's original 3D adventure has already seen the light on the Spectrum, but is soon to arrive in several new formats. The game is a two-parter and **Tim Langdell**, the head of Softek, reckons that all the cleverest effects are saved for the second section – only reached once you've captured the ship and sailed away.

A journey across water takes you to a fully mappable castle which is much larger than the one featured in the original *Fairlight*. It's also packed with some really nasty new monsters as well as a few clever new weapons, such as a magic star which the adventurer can project forwards to clobber enemies, and even a flying carpet!

The big news is that the Commodore and Amstrad CPC versions are to be released in a twin pack as *Fairlight the Legend*, back-to-back with the original, and Tim says that there may even be an introductory mini-game thrown in.

Meanwhile fans of *Fairlight* on the PCW – and Tim says it's been a best seller on the 'business' machine – will be glad to know that there's virtually no blackout between screens any more.

BAD MAGIC

WARLOCK (The Edge)
Spectrum, Commodore 64, Atari ST, Amiga

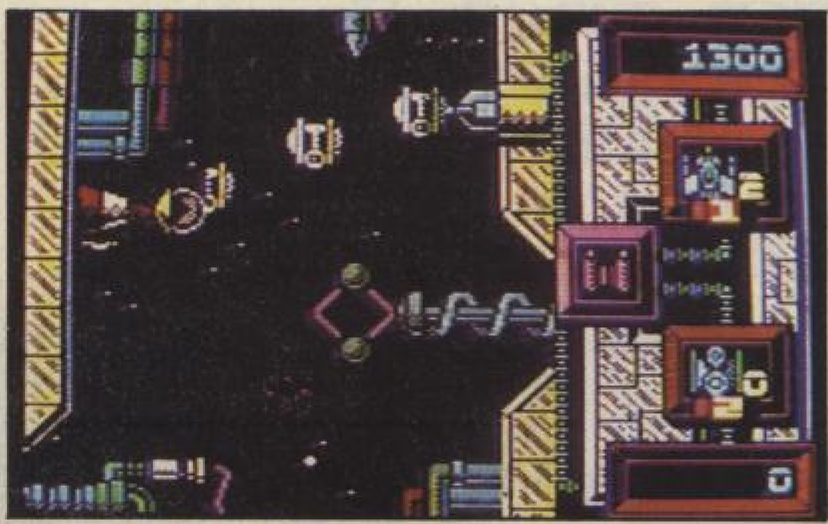
Softek supremo Tim Langdell told me that this game was designed to turn the arcade cliches upside down. So instead of playing the good guy, you're an evil warlock, determined to stop the Wizard Of Light saving the world!

Warlock takes the *Fairlight* style of perspective 3D but uses it in an arcade fashion, as if *Gauntlet*'s dungeons were real. There's a fair amount of zapping and a lot of maze mapping if you're to reach the castle basement for the Orb Of Power and take on the good wizard.

Along the way it's wise to indulge in a little shape-shifting by collecting multi-coloured potions. One turns you into a troll, who is almost pure might and can batter through walls, while another turns you into a partly magical goblin, who's still strong enough to vault the walls. And there's a potion that returns you from these potion-driven incarnations to magical warlock form – drinking this potion while you're already humanoid simply increases your strength.

The Amstrad CPC version of *Warlock* has been out for a short while and features fabulous 16-colour graphics, but The Edge have decided to go one better with the Atari ST and are currently working to produce an even richer and more detailed experience for a September release, along with Spectrum and C64 versions.

PRESS ANY KEY



SPECTRUM: smooth, colourful graphics and action to match in XECUTOR

TOKEN SHOOT 'EM UP

XECUTOR (Ace)
Spectrum

Ever since *Gauntlet* showed how well they could work, there has been a trend for two player games. It's less common to find the technique tied to a shoot 'em up though. Add a vertical scroll – tricky on the Spectrum – and miraculously do away with every attribute problem by using interrupts and you have *Xecutor*.

In fact it's probably one of the most colourful, detailed and downright tricky blasters you just must have in your collection. The idea is simple: negotiate the narrow spaceways of an alien city, wasting wave after wave of aliens. It's the gameplay that's fiendishly difficult!

Whether you play solo or in tandem, you start with a pretty basic fighter, armed with a single cannon and able to bank and turn most elegantly – but with little chance against anything but the most basic aliens.

Shoot up a complete formation of fliers though, and it's on to another Flavour Of The Month – the additional arsenal feature. The last alien destroyed leaves a token floating in space, as do the gun emplacements which fire away so happily until you destroy them. Collect the token and it's traded in instantly for an enhanced weapon. If you want to save your credits for some super-duper, really mega-spiffy device, then just blast the token and the weapon indicator on the status panel moves on to the next item – just like The Price is Right!

The game is beautifully detailed, including parallax scrolling stars, and plays like a dream, but it's also extremely tricky, so what I saw as Level One will become the second stage, with a new initial section so that mere mortals stand a chance too.

Xecutor should be available to excel in your ZX as you read this.

CUTE PUSSYCAT

GARFIELD (The Edge)
All formats

Garfield In The Big Fat Hairy Deal is more than just another game for The Edge – it's a labour of love. One of the reasons that the fat cat is so late arriving is that Tim, Cheri and the rest – Garfield addicts one and all – were determined to recreate his cartoon antics with absolute precision.

I only got to see a couple of demo animation screens, but from that exclusive sneak preview I'd say they've got it spot on. The Commodore sprites are large and detailed, accurately capturing the style of the originals, and as Garfield pads around you can almost feel his feline disrespect for all things human – especially Jon! Some clever programming has allowed The Edge to put many more than eight sprites on screen in front of full-colour scrolling scenery.

Arlene has been captured and stuck in the city pound and the only way for Garfield to rescue her is to get out of the kitchen, through the house and into the streets and parks until he finds his way to the animal Alcatraz. Unluckily all sorts of distractions, such as lasagne and coffee lie in the way . . . and after all, a cat has to eat, doesn't he?

So to start with, Garfield has to sneak up on the table and steal Jon's coffee from under his very nose, timing it when he looks away. After that it's off on a chase which could even include the sewers . . .

Garfield should be out in October on every format imaginable . . . he could even be tearing up spreadsheets on the normally sedate PCW 8256!

COMMODORE 64: where there's a fridge there's food – and where there's food there's Garfield



COMMODORE 64: Garfield goes walkabout





AMSTRAD CPC: above board burglary in The Edge's highly interactive 3D adventure, INSIDE OUTING



AMSTRAD CPC: the detailed interior of the INSIDE OUTING Billiard Room – complete with snooker table and balls

LEGALISED BURGLARY

INSIDE OUTING (The Edge)
Spectrum, Commodore 64, Amstrad CPC, Atari ST

There aren't that many games that let you be a thief, but the burglary is all above board in this *Fairlight*-style 3D game. You've been trapped by an eccentric and absent-minded millionaire to find the jewels that he's lost somewhere around his mansion – and he won't let you go until you've used all your criminal skills to uncover them!

Just as in *Fairlight*, the furniture and all other objects are 'pixel perfect'. They have their own weights and resistance, so if you push a table too heavily, the bowl of fruit resting on it may slide to the ground.

But even better than that is the detail. I saw the CPC version, and the graphics are so high resolution you can even see what the picture on the wall is. Go into the billiards room and you can move the snooker balls around the green baize – and get them to drop through the pockets!

As well as pushing objects you can pull them. One of the first places to look for the valuables is the kitchen . . . slide away a worktop and you can reach inside the cabinet until you find what you're looking for!

But beware because the house is guarded by deadly mice which attack your feet and a nasty, chirping canary which does the same for your head. You need all your dodging skills, especially amongst the shelves of the library when you frequently disappear from view!

Tim tells me that there's something to do in absolutely every room, so it should take some time to unlock the secrets of this perfectly-realised house, which even has a real flickering fire in the grate.

DOUBLE THE FUN

SHOCKWAVE (Ace)
Commodore 64

While *Xecutor* does it for dual destruction on the Spectrum, *Shockwave* is a two player shoot 'em up for the Commodore 64, complete with a weapon-collecting feature and horizontal scrolling.

I wasn't able to see this one, but Tim tells me that you start life as a jet-packin' droid, building up armaments and attributes to become half-human, half-jet plane.

Then the option to decide what form you want to be is offered. As a droid you can reverse direction but not as a ship, so there's going to be a bit of strategy involved to succeed. Tim promises great graphics too.

COMING SOON FROM THE ARCADES

Sadly there wasn't anything to see of the three coin-op conversions that are the flagships of the **Ace** label, but Tim was able to fill me in.

Soldier Of Light, a **Taito** arcade game features a heavily armed, backpacking space trooper who has to choose a weapons system before setting out to blast aliens. He can also crouch, lie down and leap – everything you'd expect of the modern marine in fact. The fast firing Soldier and a multiplicity of alien life forms are currently being programmed by **Psy**, who used to work for **Gremlin Graphics**.

Alien Syndrome isn't some new space-borne disease but another two player game being converted from the **Sega** original in time for Christmas release, and here's a refreshing change – one of the blasters is a woman!

Viewed from above, one or two brave fighters enter an alien complex and try to hold off hordes of horrible mutants. There are weapons to pick up such as flame throwers and grenades, and mini-bots which cover your rear and fire at pursuers. Prisoners have to be saved before proceeding to each subsequent level, and there's a mega-sprite to beat at the end of each section.

The lucky people given the responsibility of converting possibly the hottest arcade title of the moment are **Stoat** and **Tim** – two names Compunetters will recognise immediately – the team who did *WAR* and also worked on Mike Singleton's ill-fated *Throne Of Darkness*.

Darius rounds up this trio of conversions and this **Taito** original gives the Ace conversion programmers a major problem – getting a three-screen game into a home computer. They're convinced that they can do it. The vibrating seat will have to be left out, however . . .

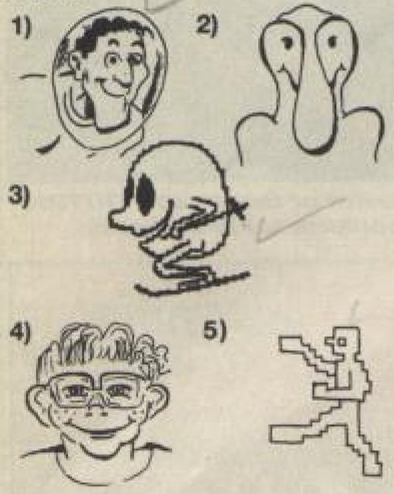
This is another one or two player, multi-weaponry game, set underwater for a change and featuring fish-like aliens. Armaments shoot from below and above, just to make life impossible, and like all the other Ace titles, it should be on show as a demonstration at the Personal Computer World Show.

UNCLE MEL'S TRIVIA QUIZ

Roving reprobate Mel Croucher has been around since the very dawn of this industry. Rattling the bars of his cage produced this quiz for you to dally with awhile. There are no prizes on offer – but if you get more than 17 questions out of 20 right, consider yourself a Person Renowned In Computer Knowledge . . .

Identify these old software heroes

1) 2) 3) 4) 5)



6) Of which Dragon-specialist software house was ZZ Top lookalike Pete The Hat a member?

7) Who weighs most?
a Jeff Minter
b Matthew Smith
c Fergus McNeil
d Postman Pat

8) Who invented the digital computer?
a Clive Sinclair in Cambridge, 1969, who was rewarded with a knighthood
b Jack Macintosh in Los Angeles, 1959, who was rewarded with a Nobel Prize
c Alan Turing in Manchester, 1949, who was rewarded with imprisonment by the British secret police.

9) Name the software industry charity compilations announced in 1985 and 1986.

10) Name the current titles which are anagrams of HE GRUNTS SHORT, A BRA NICHE, CRUD NEAR ORE

11) What did you pay for 1K of internal memory in 1981?
a £999
b £99
c £9.99p
d 99p

12) Which of the following is a writer of software hits?
a Telly Savalas
b Rainer Werner Fassbinder
c Stavros Fasoulas
d Lamb Kleftika

13) One software title has been in the charts for over five years. Name it.

14) Insert the missing words
a – – – – – Gordon
b Jet Set – – – – –
c Wiz – – – –
d Grand – – – –

15) Which of the following original software houses are still in business?
a Mikro-Gen
b Rabbit
c Silversoft
d Carnell
e Fantasy
f Legend

16) How many bytes can be stored on a standard 5-inch Compact Disc?
a 600K
b 6M
c 600M

17) Which country has the higher density of home micro ownership:
a Iceland
b Ireland
c Great Britain
d Japan

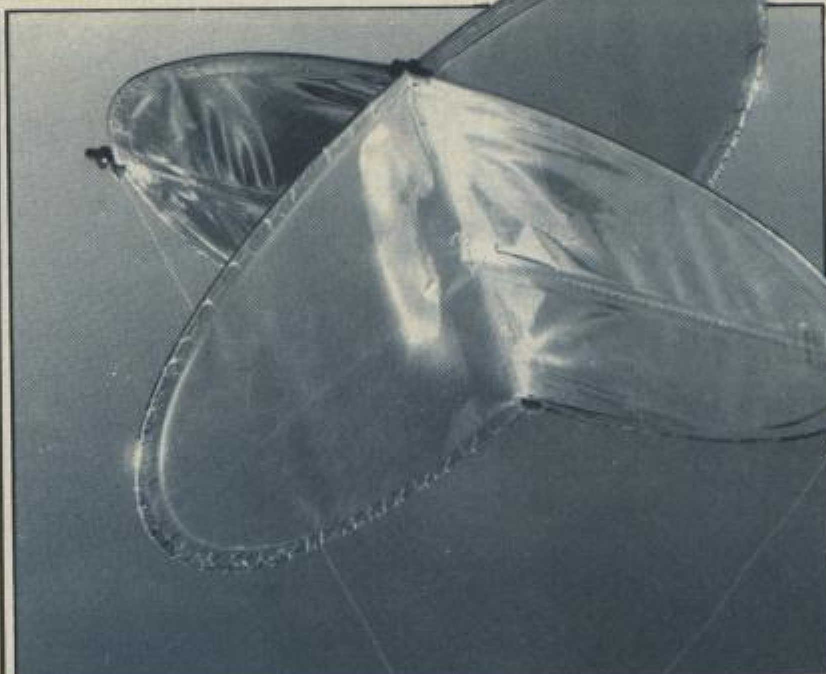
18) What did the ELAN become after it was rechristened FLAN?

19) What is Brown Bag Software?
a obscene games
b programs deliberately sold to be copied at home
c software rejected by US Gold

20) Which of the following is NOT a digital computer:
a a rubber glove
b an abacus
c a twelfth part of the moon's diameter
d a wrist watch
e a player piano
f Bonnie Langford's left foot
g an MSX.

ANSWERS

1) Jetman
2) Piman
3) Horace
4) Cuthbert
5) Graham Gooch, Steve Davis, Superman, Geoff Capes, Frank Bruno, Popeye, Ian Botham, Tony Jacklin, James Bond, Eddie Kidd, Graeme Kidd, anyone you like really . . .
6) Salamander
7) Matthew Smith
8) c – and don't forget it
9) *Softaid* and *Off The Hook*
10) *Ghosthunters, Brainache, Enduro Racer*
11) b – including VAT
12) Stavros Fasoulas
13) *Football Manager*
14) Flash, Willy, Ball, Prix. Eh? whadyamean bad taste? Bloody editorial Bowdlerism, Go choose your own words then.
15) none of them
16) c – 600M
17) a – Iceland
18) Enterprise
19) b
20) Arguably they all are, although many disagree about the MSX



GO FLY A UFO

When is a kite not a kite? When it's a UFO, that's when. *UFO Sam*, invented by an American, **Ken Sams**, is an **U**nconventional **F**lying **O**bject, and while it does fly on the end of a string, it's most definitely NOT, he insists, a kite. Technically, this new toy Sams has been perfecting for the last ten years shouldn't even fly.

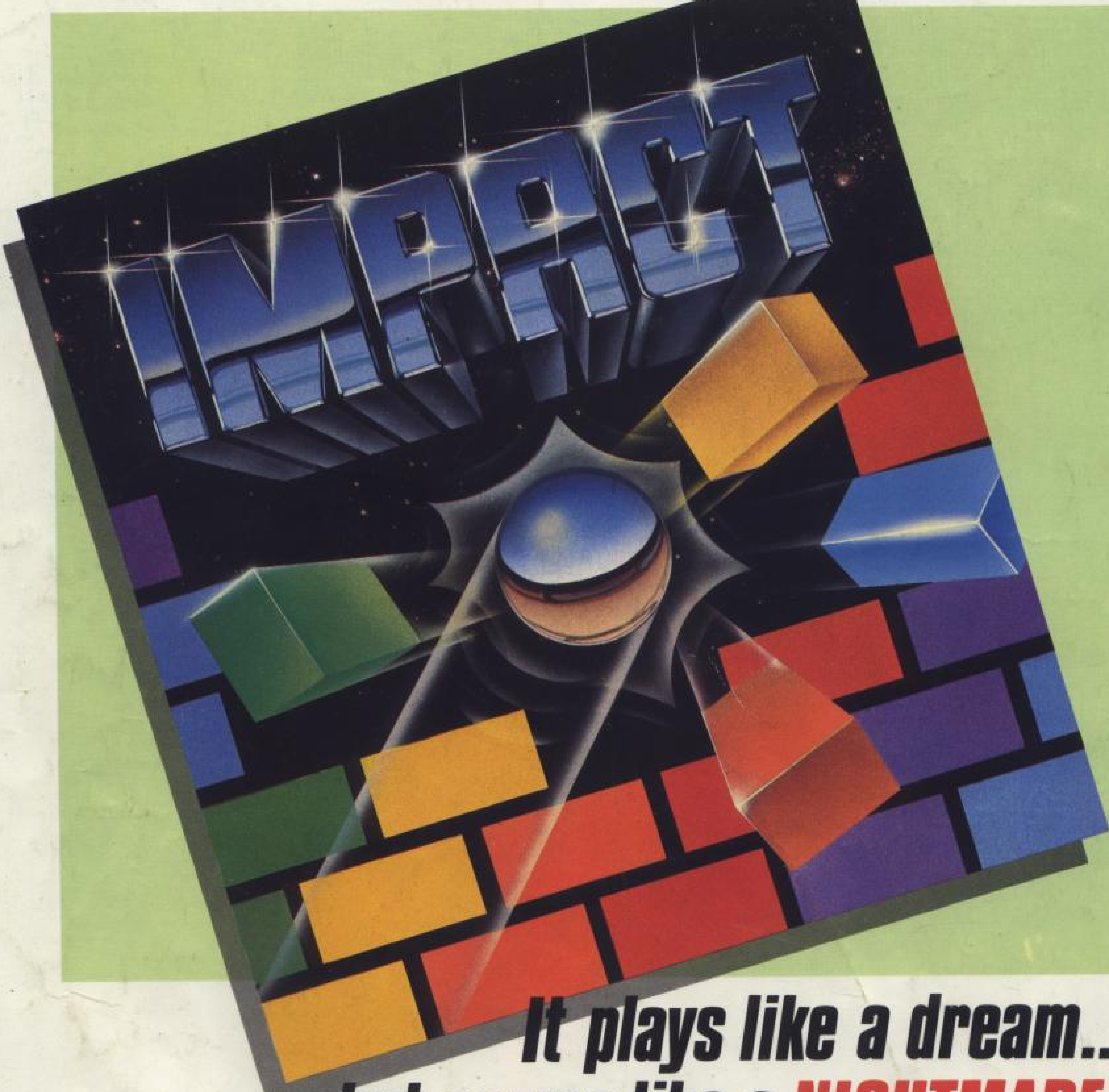
Aerodynamically speaking, *UFO Sam* is a bit like the bumble bee in that it flies, or rather spins through the air, in spite of its top heavy design. And instead of having an aerofoil, or S-shaped wing that until now was thought necessary to produce the lift needed to get something – airplane, kite, whatever – off the ground, this invention has a non-aerofoil, flat-winged design. Theoretically it shouldn't be capable of creating lift and flying. It does: "I've spoken to a lot of aeronautical engineers, and I've never yet met anyone who can explain how this flies," *UFO* inventor Sams says. "One man said that even with his 30 years experience, he couldn't figure it out." (Anyone out there got any theories on the subject? Let us know . . .)

FUTURE PLANE

Ken reckons his unique design is set to become the airplane of the future: "I absolutely believe that one day, certainly within the next 20 years, there will be spinning wings on airplanes . . . " Naturally, on that cliff-hanging futuristic quote THE GAMES MACHINE chooses to cut short Ken's fascinating theory (not so fantastic when you consider that people dabbling with kites at the turn of the century actually began the development of airplanes, which were, after all, just basic box kites with motors strapped on them) until next month, when we'll be featuring an in-depth interview with the man himself, plus loads more about kites.

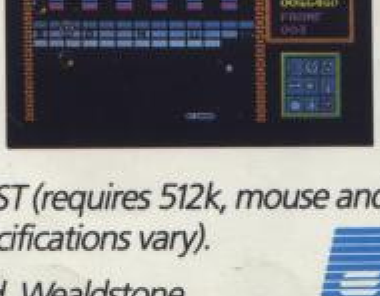
We'll be seeking an intelligent aerodynamic-speak explanation as to how exactly kites get off the ground in the first place, finding out about the dirty, cut throat Japanese sport of Sanjo Rokkaku – kite fighting – currently taking off (groan) in a big way here in Britain, and reporting from the Bristol Kite festival.

ISSUE TWO ON SALE NOVEMBER 19th


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